

Q&A WITH UFC HEAVYWEIGHT CHAMP FABRICIO WERDUM

MUSCLE & PERFORMANCE

SEPTEMBER 2015

**MOVE
MORE WEIGHT
WITH REVERSE
PYRAMIDS**

**5
ROWS
FOR A
STRONGER
BACK**

**ACCELERATE
RECOVERY
BY 50%**

**FIT BODY
BLUEPRINT**

» PHYSIQUE & BIKINI READY IN 8 WEEKS

+ SUPER STACK FOR FAT LOSS

COMPLIMENTS OF

**theVitamin
Shopper**

SEPTEMBER 2015 \$4.95 / \$5.95



MHP STRONG

CLINICAL STRENGTH SUPPLEMENTS

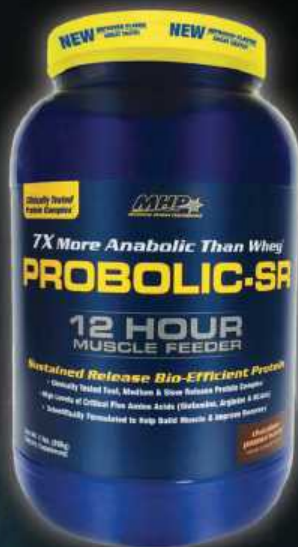
“ I would like to thank MHP for all their ongoing support. Thanks to their amazing products I've been able to realize my dream of becoming World Champion. **”**

Fabricio Werdum
MMA HEAVYWEIGHT CHAMP

MHP's Clinical Strength Guarantee!

MHP's commitment to clinical research, quality and efficacy makes it the trusted brand of champions. Whether you're looking for a protein, pre-workout, post-workout, testosterone booster or other performance enhancing products, MHP's Clinical Strength Supplements will deliver the results you're looking for – guaranteed!

TRUSTED BY CHAMPIONS



PROBOLIC-SR – Clinically Tested Protein Blend

PROBOLIC-SR is a clinically researched protein blend that has been shown to be an incredible 7x more anabolic than whey protein and superior for recovery. The clinically tested blend consists of fast, medium and slow releasing proteins and provides a massive dose of the Critical Five Amino Acids (BCAAs, glutamine and arginine), which are known to be crucial for muscle growth. PROBOLIC-SR also features a patented Sustained Release Micro-Feed Technology that allows for a continual supply of amino acids to your muscles for up to 12 hours!

- **7X MORE ANABOLIC THAN WHEY PROTEIN**
- **FORMULATED TO BUILD MUSCLE & IMPROVE RECOVERY**
- **FAST, MEDIUM & SLOW RELEASE PROTEIN COMPLEX**
- **PATENTED 12 HOUR MUSCLE FEEDER TECHNOLOGY**

DARK MATTER – Clinically Dosed Post-Workout Formula

Post-workout supplementation is critical if you want to maximize muscle building and speed recovery. After a hard workout your body is in a depleted catabolic state. DARK MATTER provides a fast and powerful nutrient infusion during the critical 1-hour post-workout window of opportunity. Featured in this formula is a powerful synergistic combination of fast acting hydrolyzed peptides rich in glutamine and a leucine loaded 10:1:1 BCAA complex to maximize muscle building and recovery. DARK MATTER also contains highly functional carbohydrates from potato starch, waxy maize and glucose polymers, plus novel insulin optimizers to help maximize insulin spiking and reload your muscles with glycogen. Lastly, a multi-source creatine complex is also present for enhanced muscle volumizing and ATP replenishment to refuel your muscles.

- **LEUCINE LOADED 10:1:1 BCAA COMPLEX TRIGGERS PROTEIN SYNTHESIS**
- **GLUTAMINE RICH, FAST HYDROLYZED PEPTIDES OPTIMIZE RECOVERY**
- **OSMOTIC CARB COMPLEX SPIKES INSULIN & REPLENISHES GLYCOGEN**
- **MULTI-SOURCE CREATINE COMPLEX RESTORES CREATINE & ATP STORES**



T-BOMB 3XTREME – Clinically Tested Testosterone Formula

Clinical Strength T-BOMB 3xtreme is a proven formula that's now 20% stronger than ever! This powerful formulation has been shown in clinical research to increase bioactive free testosterone by 32% among elite athletes without increasing estrogen levels. T-BOMB 3xtreme's Five-Phase Hormone Optimizing Complex helps block estrogen receptors, plus increases free testosterone even further by avoiding its conversion to DHT and SHBG. In addition, T-BOMB 3xtreme's proprietary 2nd Messenger Technology improves testosterone receptor signaling, thereby increasing the formula's potent anabolic effects. Build muscle, strength and power, plus improve performance like never before with T-BOMB 3xtreme – it's like testosterone on testosterone!

- **32% GREATER FREE TESTOSTERONE WITHOUT INCREASING ESTROGEN**
- **BUILD MUSCLE, INCREASE STRENGTH & AGGRESSION, PLUS PERFORM BETTER**
- **FIVE-PHASE HORMONE OPTIMIZING COMPLEX FOR MAXIMUM EFFECTIVENESS**
- **2nd MESSENGER TECHNOLOGY IMPROVES RECEPTOR SIGNALING**



Available at:

 **theVitamin Shoppe®**
every body matters™

1.888.783.8844
MHPSTRONG.com

MHP
MAXIMUM HUMAN PERFORMANCE

MHP Guarantee: If you are not happy with an MHP product, return it within 30 days to point of purchase with receipt for full reimbursement.

© 2015 Maximum Human Performance, LLC. All rights reserved. These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, cure, treat or prevent any disease. Your results may vary.

SUPERTASTE



40g
PROTEIN/
2 SERVINGS

2g
SUGAR/
SERVING

This super delicious 40g* superblend of 4 high-quality milk proteins provides ideal aminos absorption by quickly restoring glucose levels and increasing insulin. Supertein is the premium protein blend shake with nutrients strategically designed to build and maintain lean muscle and powerful physique*. It supports prolonged aminos delivery...more than whey alone*. Now at The Vitamin Shoppe, in-store and online.



"I stand firmly behind our unconditional 30-day money-back guarantee on all our products. Stay strong!"

Charles Moser
Charles Moser
PRESIDENT & CEO



#COMPETE HARDER



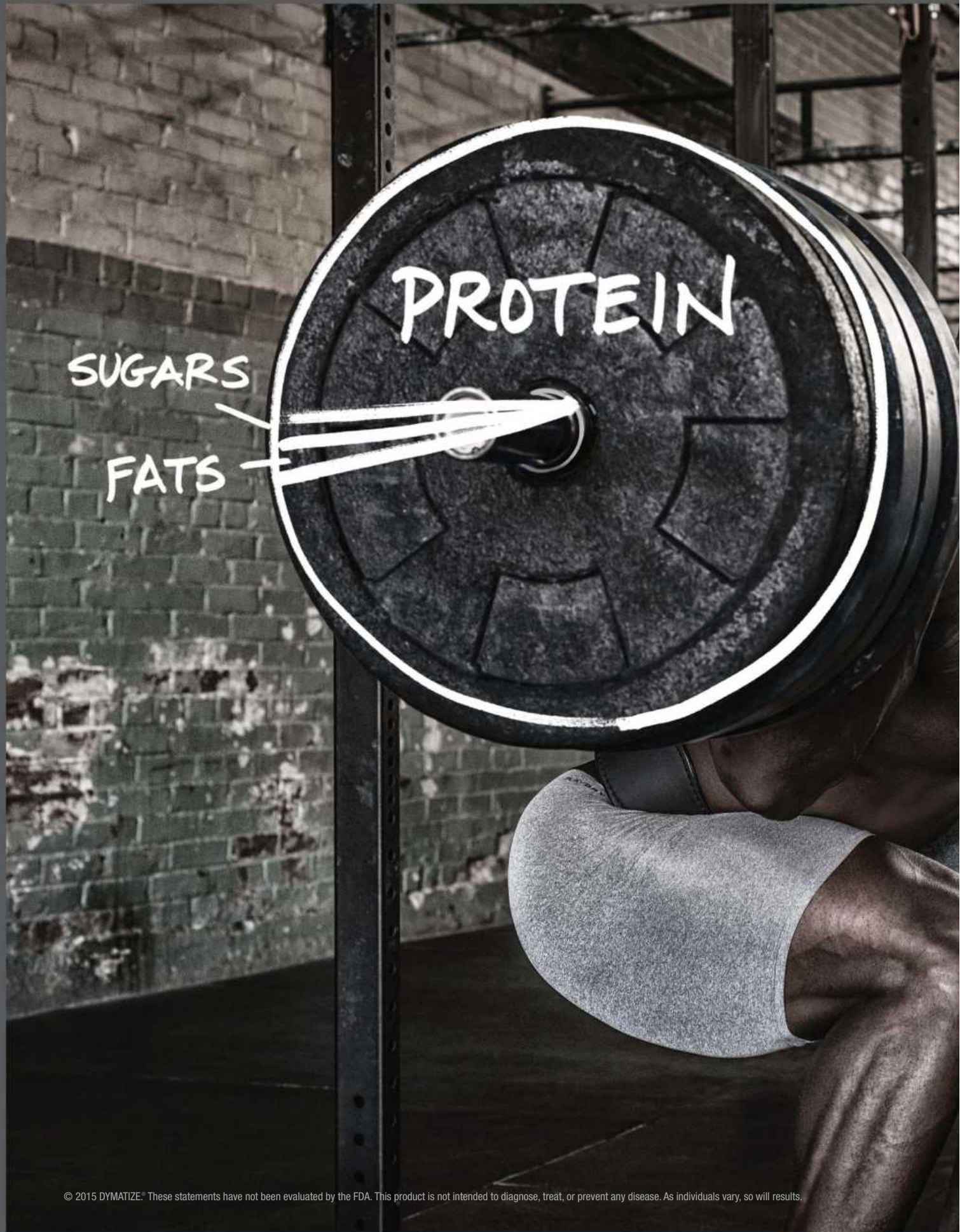
*Per 2 scoops.

*These statements have not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

\$5 OFF!

Save big on Supertein today!

Limited time offer! Save \$5 on Supertein® any flavor, any size, at The Vitamin Shoppe (in-store & online)! Offer good 9/1-9/30/15





DYMATIZE[®]

NUTRITION



PROTEIN	SUGAR	FAT
25g	<1g	.5g

**YOUR AMBITION.
OUR NUTRITION.™**

ISO-100[®] from Dymatize. What's in it? 25 grams of 100% whey protein isolate and 5.5 grams of branched-chain amino acids (BCAAs). What's in it for you? Better performance. Maximum muscle growth. And faster recovery times. Use it before and after your workouts. Because every workout counts.

CONTENTS

SEPTEMBER 2015

59

CRAFTING THE ULTIMATE FAT-BURNING STACK

Don't let your summer gains fall victim to colder temps and holiday meals. These potent fat-fighters can help you stay trim and tight year round.



Lean potion No. 9

FEATURES

38

FIT BODY BLUEPRINT

Olympia Weekend is upon us and two of the most popular divisions — Physique and Bikini — are set to steal the show in Vegas. *M&P* borrows the brains (and bodies) of some of the top athletes and experts in the industry to help you construct your own stage-worthy build.

40 PHYSIQUE: FEATURING IFBB PRO SADIK HADZOVIC

48 BIKINI: FEATURING IFBB PRO ANETTE DE LA ROSA

65

CAFFEINE IS KING

This wonder supp does it all: increases strength, burns fat, decreases fatigue, boosts alertness and blunts pain. Time to rekindle your love affair with caffeine.

DEPARTMENTS

- 13 **BODY SHOP:** Training, Nutrition and Supps
- 24 **BUILD:** Streamlined Split for Size
- 26 **BURN:** 3 Burpee-Based Circuits
- 28 **LIFT:** Reverse Pyramid Training
- 30 **PERFORM:** Upgrade Your Warm-Up
- 32 **PRO CORNER:** UFC Champ Fabricio Werdum
- 34 **BRAND SPOTLIGHT:** Optimum Nutrition
- 68 **PRODUCT INSIDER:** Growth Factor-9
- 71 **TOP SHOP:** New Deals for Your Shopping Cart
- 74 **5 WAYS:** To Diversify Your Rows

ON THE COVER: Bikini pro Anette De La Rosa and Arnold Classic Physique champ Sadik Hadzovic

🐦 @muscleperf • 📌 /MuscleAndPerformance
+ MuscleAndPerformanceMagazine



DISCLAIMER: *MUSCLE & PERFORMANCE* is an Active Interest Media publication. AIM, as publisher, does not endorse and makes no representation, warranty or guarantee concerning the safety or effectiveness of either the products and services advertised in this magazine or the weightlifting or other techniques discussed or illustrated in this magazine. The publisher expressly disclaims any and all liability relating to the manufacture, sale or use of such products and services and the application of the exercises discussed or illustrated in this magazine. The purchase or use of some of the products, services or techniques advertised or discussed in this magazine may be illegal in some areas of the United States or other countries. Therefore, you should check federal, state and local laws prior to your purchase or use of these products, services or techniques. The publisher makes no representation or warranty concerning the legality of the purchase or use of these products, services and techniques in the United States or elsewhere. Because of the nature of some of the products, services and techniques advertised or discussed in this magazine, you should consult a physician before using these products or services or applying these exercise techniques.

RSP



FAST FUEL: THE SCIENCE

- Contains Agmatine Sulfate, Arginine AKG and Arginine HCL.*
- Intense Energy and Focus with no crash.*
- The only concentrated pre-workout supplement with a full BCAA profile, Beta Alanine and Glutamine.*
- Great taste and solubility.*

FOLLOW US @RSPNUTRITION   

#TEAMRSP

*THESE STATEMENTS HAVE NOT BEEN EVALUATED BY THE FOOD AND DRUG ADMINISTRATION. THIS PRODUCT IS NOT INTENDED TO DIAGNOSE, CURE, OR PREVENT ANY DISEASE.

GROUP PUBLISHER Cheryl Angelheart **GROUP BRAND DIRECTOR** Alexander Norouzi
EDITOR-IN-CHIEF Eric Velazquez, CSCS

GROUP ADVERTISING DIRECTOR Donna Diamond Riekenberg
ADVERTISING ACCOUNT MANAGERS BJ Ghiglione, Julie Stone, Laura (Flores) Thorne
COPY EDITOR Kristi Haar **SPECIAL PROJECTS EDITOR** Vicki Baker
ART DIRECTOR Paul Duarte **PRODUCTION MANAGER** Patrick Sternkopf
PHOTO/VIDEO EDITOR Josh Brumfield
A/R MANAGER Alice Negrete **MARKETING MANAGER** Laureen O'Brien

CONTRIBUTORS Alex Ardent; Michael Berg, NSCA-CPT; Mike Carlson, NASM-CPT, CFL1; Karla Dial; Jon Finkel; Dwayne Jackson, PhD; Andrius Krasuckas; Peter Lueders; Lara McGlashan, CPT; Jonathan Mike, PhD, CSCS, NSCA-CPT, USAW; Robert Reiff; Jill Schildhouse; Cory Sorensen; Joe Wuebben



Efrem Zimbalist III **Executive Chairman**
Andrew W. Clurman **President & CEO**
Brian J. Sellstrom **Executive Vice President & CFO** Patricia B. Fox **Executive Vice President of Operations**
Kim Paulsen **Vice President General Manager**
Nelson Saenz **Vice President of IT** Kristy Kaus **Vice President of Research**

Muscle & Performance is printed monthly in the U.S.A. © 2015 by Active Interest Media, Inc. All rights reserved. Reproduction in whole or in part without permission is strictly prohibited. The information in *Muscle & Performance* is for educational purposes only. It's not intended to replace the advice or attention of health care professionals. Consult your physician before making changes in your diet, supplement and/or exercise program. MUSCLE & PERFORMANCE, 24900 Anza Dr., Unit E, Valencia, CA 91355 - Toll Free: (800) 423-2874

NO SCOOPER, NO SHAKER, NO PROBLEM



- 1 Dissolves in less than one minute,†
- 2 Elevates ATP levels in blood and tissues to prolong energy levels,†
- 3 Increases blood flow to muscle tissue which increases pump and energy,†
- 4 Fits into any standard water bottle for easy mixability

Key Components in N.O.Vate™:

AstraGin® increases the absorption of amino acids. Weight loss, energy, and "pump" are increased by absorbing more amino acids such as L-Arginine and Citrulline.

PUREENERGY™ - N.O.Vate™ utilizes a leading cutting-edge, patent-protected caffeine ingredient (**PUREENERGY™**). **PUREENERGY™** is technology-driven fusion of caffeine and pTeroPure® provides a novel next-generation functional caffeine alternative. **PUREENERGY™** delivers 30% more caffeine into the blood than ordinary caffeine. The rate of caffeine absorption is significantly slower with **PUREENERGY™**.

ElevATP® is a proprietary, clinically researched combination of a water extract of "ancient peat" (fossilized plants) and apple extract that works with our natural energy-producing mechanisms to stimulate production of ATP.

AstraGin® is a trademark of NuLivScience Nutraceutical Solutions
PUREENERGY™ Caffeine-pTeroPure® Co-crystal is a trademark of Chromadex, Inc.

No shaker, No scooper,
No problem!

1. Drop tablets in water
2. Shake or stir
3. Drink with no mess or powder spillage



FOLLOW US
FACEBOOK.COM/APPNUT
@APPNUT - TWITTER
@APPLIEDNUTRICEUTICALS
WWW.APPNUT.COM

Applied Nutriceuticals®
Better results through science™

© 2015 Applied Nutriceuticals® †These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

theVitamin Shoppe®
every body matters™

GET IN THE ZONE WITH ENERGY TO BURN.

Take *Vega Sport Pre-Workout Energizer* 20 minutes before your workout to increase energy and mental focus.

12 FUNCTIONAL
INGREDIENTS INCLUDING:



GREEN TEA AND YERBA MATÉ

Natural source of 100 mg of caffeine to support mental focus and endurance.[†]



SPROUTED WHOLE GRAIN BROWN RICE SYRUP

High-glycemic carbohydrate for immediate energy release.



COCONUT PALM NECTAR

Low-glycemic carbohydrate for slow energy release.



PREPARE SUSTAIN RECOVER

vega SPORT

CLEAN, PLANT-BASED SPORT NUTRITION SYSTEM

Net Wt. 19 oz. (540 g) POWDER

vegasport.com

[†] Jowko E, et al. (2011). Green tea extract supplementation gives protection against exercise-induced oxidative damage in healthy men. *Nutrition Research*, 31(11) 813-821.

MAXIMIZE

with Essential Omega-3s

Omega-3s for

- Heart*
- Immunity*
- Joint Mobility*

Choose Nordic Naturals

The #1 Omega-3 Fish Oil†

- ✓ Pure
- ✓ Effective
- ✓ Award Winning

#1 OMEGA-3
IN THE U.S.†



Committed to Delivering the World's
Safest, Most Effective Omega Oils™

† Based on SPINS scan data

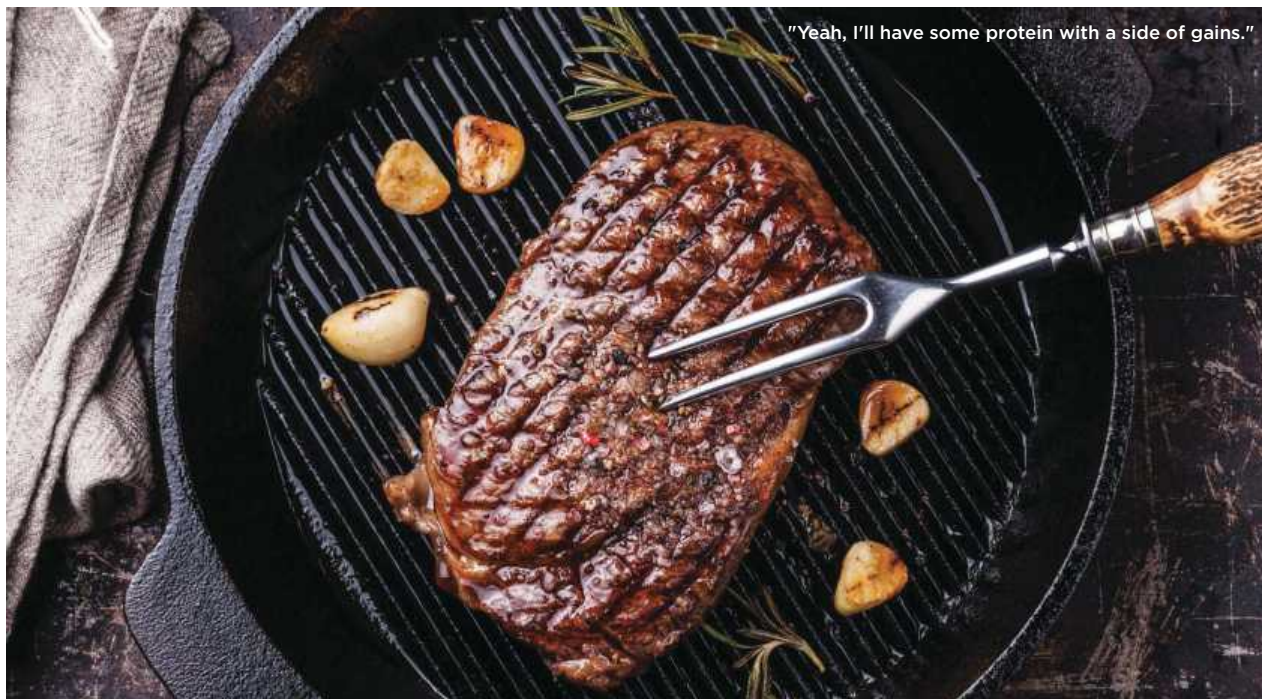
* These statements have not been evaluated by the Food and Drug Administration.
This product is not intended to diagnose, treat, cure, or prevent any disease.

 theVitamin
Shoppe®

NORDIC®
NATURALS 

BODY SHOP

SUPPLEMENTS / NUTRITION & HEALTH / TRAINING



"Yeah, I'll have some protein with a side of gains."

THE PROS OF PROTEIN

More good reasons to keep eating steaks and downing shakes.

» For athletes, the importance of a high-protein diet can't be overstated. The amino acids that make up proteins are fundamental building blocks of lean mass as well as vital signaling molecules that boost protein synthesis, fat loss and overall health. Bottom line, research shows that high levels of dietary protein will indisputably aid in muscle building and recovery while keeping you lean.

Recent work published in *The American Journal of Clinical Nutrition* illustrates several mechanisms by which a high-protein diet maintains muscle mass while also promoting fat loss. Here's a summary:

More Thermic High-protein meals produce the greatest increase in metabolic rate and thermogenesis (production of body heat). In general, dietary protein requires 20 to 30 percent of its usable energy to be burned for metabolism and/

or storage, whereas carbs require 5 to 10 percent and dietary fats require zero to 3 percent. If you've ever eaten a massive steak and immediately had the "meat sweats," you've experienced the thermic effect of a high-protein meal!

More Filling Protein-rich meals — those containing at least 25 to 30 grams — are much more satiating than high-fat or high-carb meals. Generally, subjects on high-protein/low-calorie diets report greater satiety and overall satisfaction than those on lower-protein diets of the same caloric content. This is important because diet success depends on keeping food cravings to a minimum.

More Muscle Research shows that high-protein diets promote greater loss of fat mass while maintaining lean (muscle) mass, even while in caloric deficit.

More Metabolic Those who achieve their lean physiques through high-protein diets tend to maintain fat loss better than others due to positive alterations in their metabolic profiles.

ACTION POINT: The recommended protein requirements for the general population are 1.2 to 1.6 grams per kilogram of bodyweight a day. However, athletes and other hard-training individuals require roughly twice that amount. As such, we recommend a protein intake of 2.2 to 3.5 grams per kilogram of bodyweight daily, which equates to 1 to 1.5 grams per pound; for example, a 200-pound man would take in 200 to 300 grams of protein per day.

The best way to ensure that you get all the protein you need is to eat 30 to 40 grams per meal and use a high-quality protein supplement.



MAX STACK

Just the Essentials

» Even though BCAAs get all the amino attention, there are actually nine total essential amino acids (EAAs) that contribute to the muscle-building process: histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine. Having them all in the right doses at the right times can help ensure that catabolism (read: muscle wasting) is minimized, keeping you on the road to greater gains. Research shows that **EAAs significantly increase muscles' myofiber cross-sectional area and total lean-body mass greater than a non-energetic or carbohydrate placebo.** Essential amino acids have also been shown to reduce muscle soreness from heavy training, which gets you back to lifting at max intensity quicker.

The three BCAAs — leucine, isoleucine and valine — also contribute to greater endurance, improved recovery and enhanced immune system function. Leucine, in particular, has been shown in multiple studies to stimulate muscle building through key pathways that trigger protein synthesis. The good news is that most protein powders include strong amino acid profiles but depending on your diet and training schedule, you may still be low in these vital building blocks. **Your best bet is to supplement with a dedicated EAAs product like Prime Nutrition EAAs that has these aminos in the proper ratios.**



GREAT RECOVERY

Spice Up Your Training

» Better muscle recovery could be sitting in your kitchen cupboard. Curcumin, commonly found in turmeric and curry-based foods, has recently been in the experimental spotlight as an anti-inflammatory and pain-relieving supplement. Based on this, researchers from the University of Tsukuba (Japan) hypothesized that curcumin ingestion could decrease muscle damage after heavy eccentric exercise. In their placebo-controlled trial published in the *European Journal of Applied Physiology*, it was found that men who took 150 milligrams of curcumin before and 12 hours after heavy eccentric arm training enjoyed about 50 percent greater strength recovery four days after exercise and a more than 50 percent decrease in creatine kinase levels, an enzyme marker for muscle damage. These spicy results show a clear relationship between curcumin supplementation and enhanced muscle recovery after training.

ACTION POINT:

Curcumin could be a valuable supplement for athletes who compete multiple times per week (or per day) or gym rats cranking out two-a-days. We recommend taking 150 to 600 milligrams of turmeric standardized to greater than 95 percent curcuminoids twice daily with food. On training days, take those doses with your pre- and post-workout meals.



MORE BEAST.



5 ADVANCED FORMS OF CREATINE CREATURE® CREATINE COMPLEX

Creature® creatine complex delivers five advanced forms of creatine to fuel muscle growth, increase strength and keep you training like a Beast.*

MADE WITH  **Creapure®**



BOOST INTENSITY & INCREASE STRENGTH SUPER TEST® TESTOSTERONE SUPPORT

Super Test® will maximize testosterone and nitric oxide levels to support muscle mass, strength and libido while supporting liver and kidney function. Become a BEAST, NOW.*



NEW IMPROVED & REFORMULATED BEAST MODE® PRE-WORKOUT

NEW Beast Mode® has been specially designed to ignite new muscle, maximize focus and intensity — providing the energy to power you through your workout from beginning to the end. Turn on your Beast Mode.®*

**SUPER TEST® EXCLUSIVE
— 20% MORE —
BONUS SIZE!**

BEASTSPORTS.COM

AVAILABLE AT
 **theVitamin
Shoppe**

BEAST® **B ORIGINAL.
GENUINE.
MORE.**

*THESE STATEMENTS HAVE NOT BEEN EVALUATED BY THE FOOD AND DRUG ADMINISTRATION. THIS PRODUCT IS NOT INTENDED TO DIAGNOSE, TREAT, CURE, OR PREVENT ANY DISEASE. © 1995 - 2015 Beast Sports Nutrition. All Rights Reserved.



Taking 5,000 IU of vitamin D3 daily for 14 weeks significantly elevated antimicrobial peptides and proteins, both of which are essential immune system defenders.

TAKE YOUR VITAMINS

D Is for Immunity

» Vitamin D is a pretty important micronutrient: It's essential for calcium metabolism and absorption, it contributes to muscle protein synthesis and growth, and it also plays a vital role in regulating inflammation and immunity. Unfortunately, numerous studies report that athletes tend to be vitamin D-deficient. What to do? Supplement, of course!

A recent study published in the *Journal of Sports Sciences* examined the effect of 14 weeks of vitamin D3 supplementation (5,000 IU per day) on immunity against bacterial oral and respiratory infections in athletes during heavy winter training. (Heavy training is associated with increased respiratory infection risk, especially during winter months.) Results showed the D3 supplementation regimen significantly elevated antimicrobial peptides and proteins, both of which are essential immune system defenders. This study suggests that keeping your vitamin D levels topped off can provide immune system protection and improve resistance to respiratory infections, meaning you can spend more time in the gym and less time sick in bed.

ACTION POINT: To reap all the macro-important benefits of this micronutrient — including immune system protection — take 5,000 IU of vitamin D3 per day with breakfast.

#1 SHAKE or BAKE

NATURALLY SWEETENED

**FREE
SAMPLE**



Cinnamon Bun
Fiber & Protein Pancakes

QUICK 4 MINUTE RECIPE!

3 EASY STEPS!

GO TO:

www.barndadnutrition.com/recipes

Also available
in Strawberry Cream
& German Chocolate



1 THE ONE THAT STARTED IT ALL FIRST, BUT NEVER FINISHED

Scivation XTEND. The **first** intra-workout BCAA drink mix, and the **first** to push the boundaries of BCAA technology.



7g
BCAAs

0g
CARBS

0g
SUGAR

% BURN FAT

⬆️ BUILD MUSCLE

⬆️ RECOVER FASTER

SCIVATION XTEND IS FIRST IN:

PRODUCT PERFORMANCE – Backed by 2 University Studies*

QUALITY – Certified by NSF for Sport and Informed Choice

MIXABILITY – Highly Soluble with No Powdery Residue

HYDRATION – Electrolytes for Improved Performance

FLAVOR – 12 Delicious Choices to Choose from

BE FIRST, BUT NEVER FINISH.

INFORMED-CHOICE
Trusted by sport

NSF

Certified for Sport*

* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

*Scheett, et al. Consuming branched-chain amino acid supplement during a resistance training program increases lean mass, muscle strength and fat loss. Journal of the International Society of Sports Nutrition 2009, 6(Suppl 1):P1

*Scheett et al. Consuming branched-chain amino acid or whey protein in combination with hypocaloric diet differentially effects muscle mass, body fat and strength in trained subjects. Manuscript in Process.



SCIVATION
SCIVATION.COM

BODY SHOP



TASTY RESULTS

Sweet Pick-Me-Up

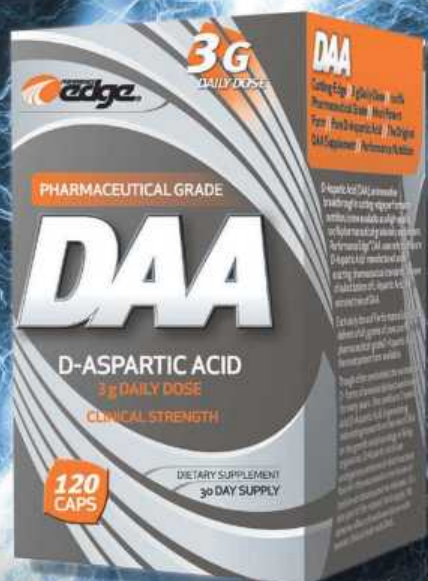
» Researchers from Northern Arizona University (Flagstaff) believe they may have found a remedy for the all-too-typical midday slump: dark chocolate. The popular sweet has been known for years to boast significant health benefits, from fighting cancer to reducing blood pressure and heart disease risk, and the NAU team theorized it could also provide a more immediate effect due to its natural stimulant content. Brain activity of 122 adults ages 18 to 25 was measured via EEG after they consumed one of six different food or beverage options, with 60 percent and zero percent cacao dark chocolate and placebos among them. Results showed that those eating 60 percent cacao were more alert and attentive after consumption than all other study participants.

The take-home lesson: Consider eating your dark chocolate as a midday snack at the office instead of for dessert in the evening. It might just improve your work productivity.

**100 GRAMS OF DARK CHOCOLATE
WITH 70% TO 85% COCOA
CONTAINS 11 GRAMS OF FIBER**

13%

» Decreased risk of colorectal cancer seen in women who consumed a one-ounce serving of nuts (such as almonds, Brazil nuts, cashews, hazelnuts, macadamias, pecans, pine nuts, pistachios and/or walnuts) two or more times per week, according to data pulled from the Nurses' Health Study and published in the *European Journal of Clinical Nutrition*.



PHARMACEUTICAL GRADE D-ASPARTIC ACID



Performance Edge™ DAA is pure, pharmaceutical grade, safe and natural D-Aspartic Acid.



Performance Edge™ DAA is manufactured under exacting pharmaceutical standards.



Each daily dose of Performance Edge™ DAA delivers a full 3 grams of pure, 100% pharmaceutical-grade D-Aspartic Acid, the most potent form available.



Beware of substitutions of L-Aspartic Acid, the mirrored twin of DAA.

WWW.PERFORMANCEEDGE.COM



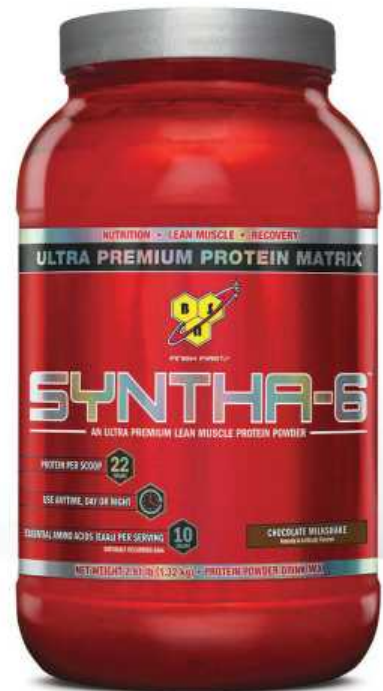


FINISH FIRST.®

Set your goals to

PUSH

your limits.



You never settle for easy. And neither do we.

Reward your efforts with the great tasting ultra-premium protein — SYNTHA-6®. Packed with 22 grams of protein and 10 grams of essential amino acids* per serving, you can fuel your muscles while rewarding your taste buds.

Recover, rebuild and repair with SYNTHA-6® — then push some more.

Team BSN Athlete
Ryan Hughes
IFBB MEN'S PHYSIQUE COMPETITOR



LEAN MUSCLE



RECOVERY



USE ANYTIME,
DAY OR NIGHT

Visit goBSN.com to find your push.

**theVitamin
Shopper®**

SYN-RH1 ©2015 BSN® *Naturally Occurring Amino Acids

ALL AMERICAN
EFX FORMULATED TO WIN[™]
SPORTS

ENDURANCE. RECOVERY.

WHY ATHLETES LOVE KARBOLYN:

- Long-lasting carbohydrate energy
- Carb-load in minutes not hours
 - Sugar-Free, Gluten-Free
 - GMO-Free, Stimulant-Free



FREE DOWNLOAD!

www.getkarbolyn.com/carbguide

**CARB USERS GUIDE
TO MAXIMUM PERFORMANCE**



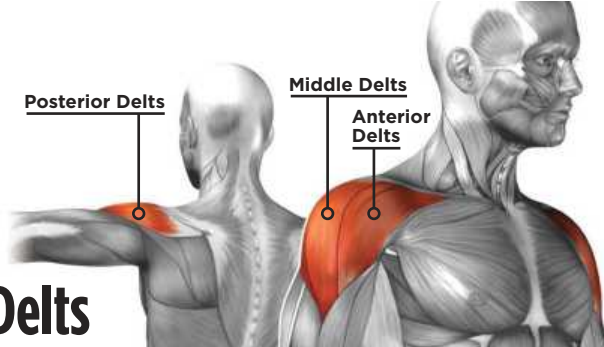
GET YOURS NOW!

TRAINING

BODY SHOP

TARGET TRAINING

Designing Delts



» The American Council on Exercise (ACE) has your back. Correction: It has your *shoulders*. Together with University of Wisconsin–La Crosse researchers, ACE analyzed via EMG technology the muscular activity of 10 popular delt exercises — the standing dumbbell overhead press, push-up, cable diagonal raise, dip, dumbbell front raise, battling ropes, barbell upright row, bent-arm lateral raise, 45-degree incline row and seated bent-over lateral raise — to identify which deltoid heads (anterior, posterior, middle) were targeted the most with different movements. This chart reveals the best moves for each individual delt head. For more cutting-edge research from ACE, visit acefitness.org.

To Target...	Do This Move...	Like This...
Anterior Delts	Dumbbell Overhead Press	ACE subjects did overhead presses from a standing position; keep a slight bend in the knees and stop just short of full elbow lockout at the top.
Middle Delts	45-Degree Incline Dumbbell Row	Lean facedown against an adjustable bench set to 45 degrees, your legs straight and in line with your torso, holding a pair of dumbbells hanging straight down toward the floor. Pull the weights straight up in a rowing motion. At the top, your elbows should be bent roughly 90 degrees with your upper arms parallel to the floor.
Posterior Delts	Seated Bent-Over Lateral Raise	Study participants performed this standard rear-delt raise seated along the edge of a flat bench with the torso leaned forward about 30 to 45 degrees; maintain a flat back throughout.

DISC JOCKEY Ultimate Cardio

» Looking for a new form of cardio to relieve the monotony of treadmill trudging and elliptical endlessness? Try Ultimate Frisbee. A study recently published in *The Journal of Strength and Conditioning Research* analyzed the game demands of 13 competitive Frisbee athletes during one match using GPS and heart-rate technology and found the sport to be a great mix of low-, medium- and high-intensity running. Frisbee players ran an average of just less than three miles during the roughly hourlong match, with more than a half-mile of that running categorized as either “high-intensity” or “sprinting.” (It was implied that the remainder of the running was essentially jogging.)

The average player ran a total of 17 sprints throughout the match, which is consistent with a typical HIIT session. Sounds a lot more fun than another three-mile treadmill run, no?



Darius M / Shutterstock.com

DON'T DRINK YOUR CALORIES.
MAKE THE
SMART CHOICE

ANAVITE vs ORANGE JUICE
 PER SERVING (APPROX 8 OZ)



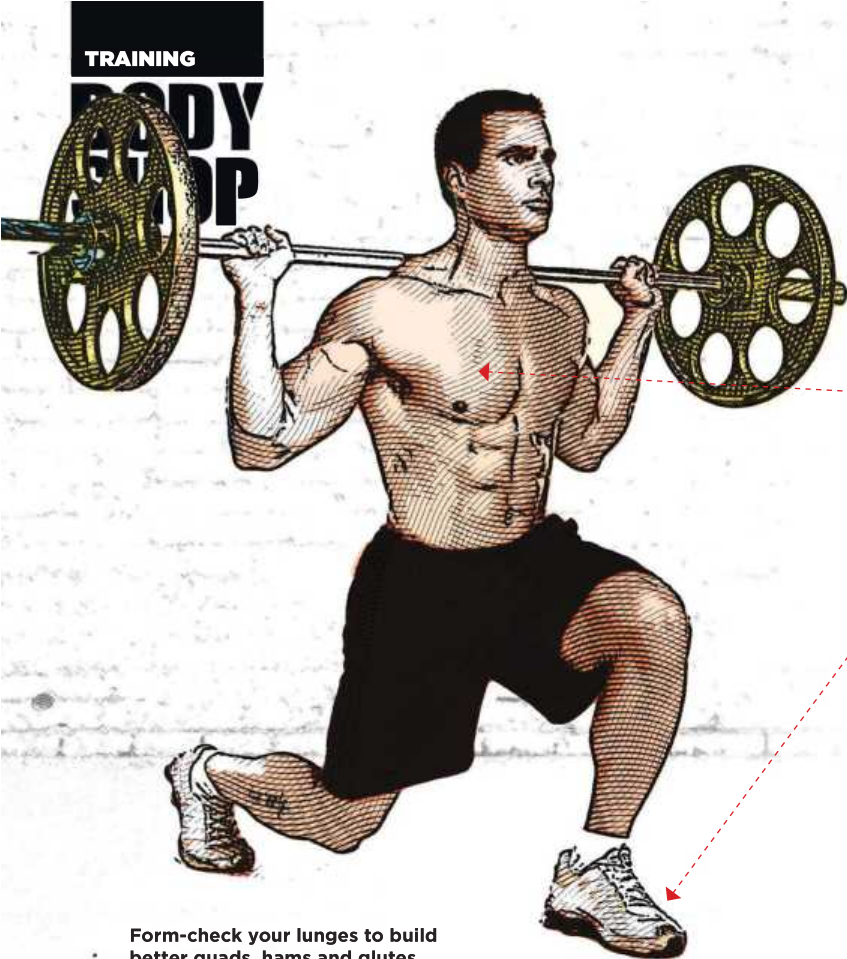
Start your day with **ANAVITE**, the ideal alternative to high calorie traditional juices, and replenish your body of essential vitamins and antioxidants.*

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.



© 2015 Gaspari Nutrition. All Rights Reserved.





QUICK FIX

BARBELL WALKING LUNGE

Simple solutions to widespread exercise errors.

The Flaw: Leaning forward at the torso.

The Fix: As you lunge, concentrate on pushing your chest out so your torso stays perpendicular to the floor. Keeping your eyes facing forward (not down) will help, too. The objective with lunges is similar to that of squats: You want to keep the weight back and over your heels to take stress off the lower back and maximize tension on the glutes and quads.

The Flaw: Not stepping out far enough.

The Fix: Taking short steps while lunging leads to the knees traveling over the toes at the bottom of each rep. Over the long term, this can wreck the connective tissue in your knees. Step out far enough so your heel hits the floor first. To get the stride length right, do a few practice reps with no weight before adding the barbell.

The Flaw: Going too fast.

The Fix: Yes, you're moving forward and covering ground with every rep, but this is not a race. If you're going to lunge for time à la CrossFit, we recommend using only your bodyweight. When there's a barbell resting across your back, keep the pace moderate and focus on strict form.

Form-check your lunges to build better quads, hams and glutes.

Photo Illustration by Paul Duarte

GET YOUR BODY BACK!

PERFORMANCE NUTRITION FOR MEN OVER 40!

FACT: As men age, they can lose 8% of muscle mass per decade. By the time you turn 60, you can lose 25% of your muscle mass.

AMIDREN BUILDER: Lean Muscle Reactivator – The reason men lose muscle mass as they age is attributed to a natural change known as sarcopenia (age-associated muscle loss). Your muscles now suffer from “anabolic resistance” and excess catabolism, and fail to respond to exercise and good nutrition like they used to. It's as if your muscles have gone dormant. AMIDREN BUILDER contains clinically researched ingredients to help reactivate your muscles to combat the effects of sarcopenia and restore the muscle building, strength and performance you had in your prime.

FACT: The loss of muscle mass and subsequent decrease in metabolism causes an increase in body fat in men over 40.

AMIDREN BURNER: Energy & Metabolism Reactivator – As men age, key metabolic functions and fat burning enzymes begin to decline. As a result, the release, transport and burning of fat for energy slows down, making it more and more difficult to lose weight. Medical researchers call this age-associated weight gain and it affects millions of men, beginning to develop as early as your mid-30s. AMIDREN BURNER uses an advanced release-transport-burn RTB Lipid Kinetics Technology and potent, clinically researched ingredients to help reactivate your metabolism so you can effectively lose body fat.



Gino Caccavale
Age 49

live at your peak®



"I'M ON A DIET"

Our Policy:
**DON'T SAY IT
UNLESS YOU
MEAN IT**

At Olympian Labs,
when we say gluten-free, allergen-free,
non-GMO, vegan, vegetarian, or made
with extra virgin olive oil, we truly mean it.
So you know you're getting the cleanest,
highest quality vitamins and supplements
on the market.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.
© 2015 Olympian Labs



NEW LOOK *Same Performance*



Coming to  **theVitamin Shoppe** Near you!

OLYMPIANLABS.COM

A CLEAN START

Declutter a complicated training regimen with this simple, streamlined mass-building routine.

BY MICHAEL BERG, NSCA-CPT



There's no substitute for progressively heavier sets with basic, compound moves.

I can't throw that out, I may need it someday! And so begins the human tendency to steadfastly hold onto every item we've ever purchased or otherwise called our own, cramming it all into the hidden nooks and forgotten crannies of our homes. It leads to garages chock full of tools and toys, basements stacked high with storage bins and closets packed to the ceiling like a giant game of Hoarder Jenga. Believing that you need to keep every last piece of clutter is nothing more than a mental crutch and an irrational fear, experts say. It's sentimentality getting in the way of reality.

And so it goes with your workout. Over the years, you've likely picked up all sorts of additions to your training: an interesting exercise here, a cool technique there. All of a sudden you're following a complex, bolted-together regimen of disparate pieces, many of which you believe you couldn't do without because of some perceived success from using them in the past.

To that we say it's time for a thorough spring cleaning — yes, right now in the fall — because doing the right thing for your fitness goals knows no season. Today we challenge you to temporarily mothball your current program and replace it with this stripped-down, back-to-basics plan. It's just 16 exercises split over two workouts, one focused on the upper body and one for lower body, each of which should be done twice a week for four weekly sessions total.

We only ask that you try it for one month, resisting the urge to add to it or tweak it in any way. Instead, embrace it as a chance to get back in touch with the simple and efficient nature of weight training in its purest form: using basic barbell, dumbbell and bodyweight exercises, striving for 10 reps per set as you pyramid up the weight each set in search of your upper strength limits.

The best part? This universal approach will provide results over time regardless of whether you're a mere beginner or more experienced lifter. We hope a refreshing change inspires a longer-term reevaluation of your fitness regimen. And who knows? Without the overstuffed workouts of your past, you might just find a few precious hours in the day to clear out some clutter on the home front, too. ■

Back-to-Basics Plan

Do four sets each of the exercises in the order listed, pyramiding up the weight set to set and aiming for 10 reps or failure, whichever comes first. (Beginners should cut the sets down to two to three per exercise max.) Perform all sets of one exercise before moving to the next. Rest no more than 90 seconds between sets and exercises. Do each workout twice a week.

DAYS 1 + 4: LOWER BODY

- Barbell Squat
- Barbell Deadlift
- Barbell Romanian Deadlift
- Walking Dumbbell Lunge
- Standing Barbell Calf Raise¹
- Hanging Leg Raise²
- Twisting Crunch²
- Plank³

¹ Place your toes on a block and the bar across your upper back as in a squat. This move is best done in a power rack with the safety rails set at chest level.

² If you can complete 10 reps using just your bodyweight,

DAYS 2 + 5: UPPER BODY

- Pull-Up (shown)²
- Barbell Row
- Seated Barbell Overhead Press⁴
- Incline Bench Press⁴
- Dumbbell Bench Press
- Barbell Upright Row
- Chest Dip²
- Barbell Curl

add ankle weights, a weighted vest or a dip belt to increase the intensity.

³ Hold for 30 seconds or until muscle failure.

⁴ If you don't have a spotter, use dumbbells instead.

ALL-NEW EXCLUSIVE ICY ROCKET FREEZE FLAVOR



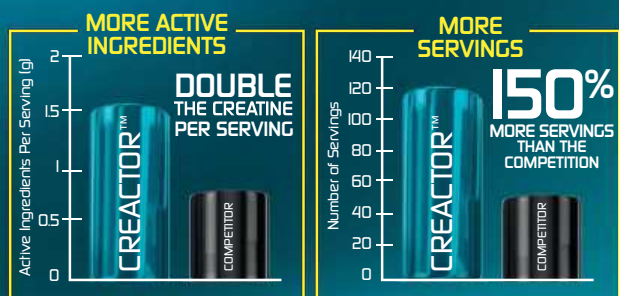
CLINICALLY STUDIED FREE-ACID CREATOR™ FORMULA

FORMULATED BASED ON RESEARCH FROM THE UNIVERSITY OF NOTTINGHAM

All-new Creator™ from MuscleTech® is a powerful creatine formula, and it's now available in mouthwatering Icy Rocket Freeze flavor. It delivers a never-before-seen ratio of creatine molecules for massive gains in size and strength, and improved recovery. Unlike the other guys, Creator™ delivers a 1:1 ratio of 100% ultra-pure, lab-tested creatine HCl, plus free-acid creatine – the purest form of creatine, free of acids and salts. Plus, there's zero bloating, and you don't need to load or cycle off. For advanced results, get Creator™ today.

- Backed by 2 clinical studies
- Quality guarantee – 100% pure, lab-tested, HPLC-certified creatine
- Fully disclosed label – no proprietary blends

CREATOR™ IS SUPERIOR TO THE COMPETITION



[MUSCLETECH.COM](https://www.muscletech.com)

1:1 RATIO OF CREATINE

Features a potent combination of 750mg of free-acid creatine and 750mg of creatine HCl

HIGHEST QUALITY

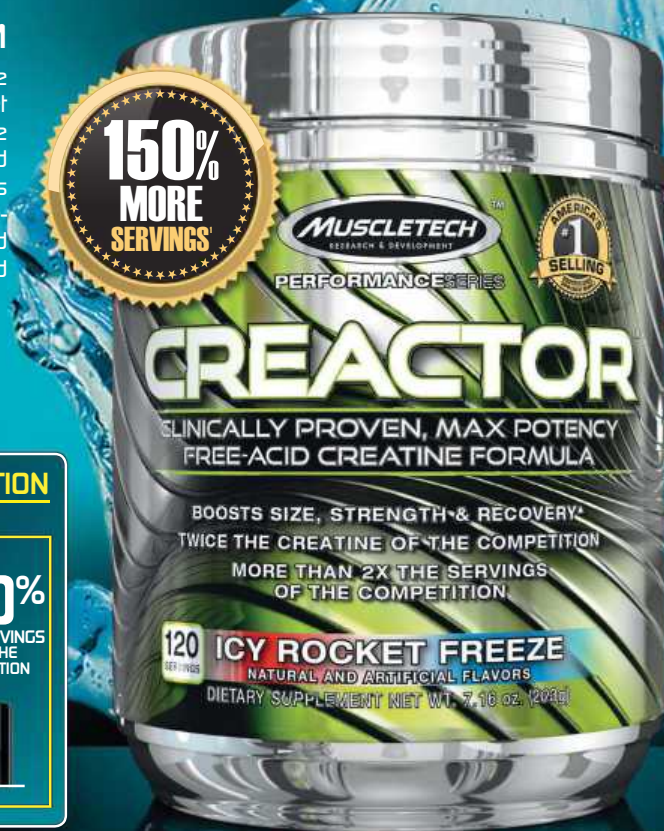
Contains zero fillers, carbs, sugar or fat, so there's no bloating

20% MORE MUSCLE CREATINE

Research from The University of Nottingham that was published in the *Journal of Applied Physiology* has shown that 3g of creatine per day can boost muscle creatine concentration by 20% in 28 days

120 SERVINGS

Delivers 150% more servings than the leading competitor





BLAST FAT WITH BURPEES

Get chiseled and conditioned with one simple (but brutal), equipment-free exercise.

BY JOE WUEBBEN

As exercises go, the burpee is about as all-inclusive as it gets. Virtually anyone can do burpees and benefit from this exercise also known as squat thrusts: men, women, kids, over-50s, beginners, elite athletes, you name it.

Whether you're *willing* to do burpees is the question. They're not easy or particularly fun, either. So why do them? Because burpees are brutally effective at enhancing cardiovascular conditioning and fat burning. The burpee is a full-body exercise with an unsurpassed range of motion (from body flat on the floor to airborne with a vertical leap), a

blend of basic human movements (squats, push-ups, jumping) that when strung together and done repeatedly can't help but elicit significant aerobic and anaerobic adaptations while carving up your physique.

"The burpee is one of the best functional exercises that exists," says Donté Jones, an ACSM-certified trainer and the personal training coordinator at the Harlem YMCA in New York City. "It requires the coordination of most major muscle groups, can be done with or without additional equipment and has great cardiovascular benefits. Burpees can be done anywhere, so there's no excuse to miss out on this great movement and its many variations."

HOW TO BURPEE Find an area of open floor space and begin in a standing position. A standard burpee is comprised of six distinct parts performed in sequence: 1) Squat all the way down until your hands are flat on the floor about shoulder-width apart and in front of your feet, 2) drive your feet behind you to arrive at the top of a push-up position, 3) perform one push-up, 4) bend your knees and "jump" your feet forward underneath you, 5) stand back up to the start posi-

tion, and 6) go immediately into a vertical jump with your hands overhead before landing softly back on the floor. That's one rep. It's worth noting that the push-up and vertical jump are sometimes considered optional steps, particularly for beginners because of how much intensity they add to the overall movement.

How quickly you perform this sequence of actions depends mainly on your conditioning level and familiarity with the exercise. Those new to burpees and/or who are deconditioned (the polite term for "out of shape") will probably need to perform each step at a steady pace while advanced, in-shape individuals can do burpees more quickly, to the point where the six actions blend into each other instead of being choppy. ■

BURPEE-CENTRIC WORKOUTS

These three circuit-style routines were designed by Harlem YMCA's Donté Jones to ignite fat burning and enhance overall cardiovascular function and conditioning, with burpees being the catalyst in each. Perform the circuits individually — don't do all three in the same day — either after weight training or as stand-alone HIIT cardio sessions.

Circuit 1

EQUIPMENT REQUIRED None

INSTRUCTIONS Without resting, do one rep of each exercise, then two reps, then three and so on until you reach 10 reps. Rest five minutes, then go back down the "ladder" starting at nine reps per move and going all the way to one.

EXERCISE	REPS
Jumping Jack	1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (rest), 9, 8, 7, 6, 5, 4, 3, 2, 1
Burpee (with Push-Up)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (rest), 9, 8, 7, 6, 5, 4, 3, 2, 1
Reverse Lunge ¹	1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (rest), 9, 8, 7, 6, 5, 4, 3, 2, 1

¹ Perform the prescribed reps for each leg.

Circuit 2

EQUIPMENT REQUIRED None

INSTRUCTIONS Perform the exercises consecutively without rest and complete the circuit a total of three times.

EXERCISE	REPS/TIME
Shadowboxing/Punching	1 minute
One-Leg Burpee	20 ²
Plank Hold	1-2 minutes

² Do the first 10 burpees using just one leg throughout the exercise, then switch legs for the last 10 burpees.

Circuit 3

EQUIPMENT REQUIRED Light dumbbells, preferably with straight edges such as hexagonal or square-shaped weights (round ones will roll freely on the floor)

INSTRUCTIONS These three exercises are designed to flow into each other. Holding a light pair of dumbbells throughout, do one push-up and a dumbbell row for each arm at the bottom of the burpee, then do a broad jump at the top instead of a vertical leap. One time through each movement equals one rep. Complete 10 reps (one circuit), then rest four minutes. Complete three circuits total. Since the broad jumps are weighted and you won't have the benefit of an arm swing, you won't be able to jump as far but you'll still travel forward, so make sure you have plenty of open space to move.

EXERCISE	REPS
Weighted Burpee	10
Dumbbell Push-Up/Row	10
Broad Jump	10



**Real food.
Primal
Performance.**

What we're meant to eat[®]



**theVitamin
Shoppe[®]**
every body matters[™]



THE (NEW) PYRAMID SCHEME

Put your results in high gear by throwing your training into reverse.

BY LARA MCGLASHAN, MFA, CPT

If you've been going to the gym for a while, it's a good bet that you've used pyramid training without even realizing it. In a traditional pyramid, you begin with a lighter weight and higher reps, and with each set you add weight as you decrease reps. But here's the thing: Traditional pyramids are technically pre-exhausting. Starting with lighter weights and building up from there depletes your energy stores so by the time you're ready to perform your heaviest set(s), your energy is sapped and the lactic acid buildup in your muscles interferes with your strength capacity.

So what would happen if you performed a pyramid in reverse, beginning

with your heaviest weight and low reps and decreasing the poundage with each subsequent set as you increase reps? Ah, now we're getting somewhere.

"Reverse pyramiding allows you to build strength and muscle very effectively because the most important strength-building set is the first one," says Josh Bryant, CSCS, a world record-holding powerlifter and the 2005 Atlantis Strongest Man in America (joshstrength.com). "You are 100 percent fresh and haven't burned out on light weights during the building sets." This means you'll have a better chance of making strength gains, building muscle and improving force production.

But there's another reason to try this technique called post-activation potentiation (PAP). "Although most studies on PAP are done on things like heavy squats followed by vertical jumps, the same holds true when moving from a maximal weight to a submaximal weight," says Bryant.

Here's how it works: Lifting a heavy weight induces a high degree of central nervous system activity, thereby activating high-threshold motor units (HTMUs) that stand at attention, ready for you to lift another heavy load. So when you decrease the weight as in a reverse pyramid, the HTMUs fire just as strongly as with the heavier load, giving you a greater muscular contraction and making the weight feel lighter than it should. "When you perform a three- to five-rep max and then follow it with lighter sets, those subsequent sets and reps will be more explosive," says Bryant. "Explosive reps equal a more efficient recruitment of HTMUs, which have the most growth potential."

Before you head to the squat rack to get your lift on, remember that a proper warm-up is essential when doing reverse pyramids to prevent blowing your joints apart with max lifts right out of the gate. Do 10 minutes of light cardio to elevate your core body temperature, then perform five to 10 minutes of dynamic stretching (see page 30), focusing on the muscles you'll use most in your lift. Then start pumping.

"The best way to warm-up for a lift is by doing that lift at submaximal intensity," explains Bryant. Do three to five sets of your chosen move using a lighter weight, then get right into your working sets using your heaviest weight for your first working set. Rest two to five minutes between working sets to fully recover, and "the stronger you are, the longer you'll need to rest," Bryant says. Use this technique for any bodypart that needs a shock treatment or for overall strength gains. ■

REVERSE PYRAMID BENCH PRESS

Here's a sample progression for someone with roughly a 285-pound four-rep max (4RM) on the bench press. The key is to perform a general warm-up to elevate your core body temperature and then keep your specific warm-up sets well short of failure. This primes the joints and muscles for your first (and heaviest) working set while preventing you from expending too much energy.

Specific Warm-Up*

SET	WEIGHT	REPS
1	Bar	10
2	95	8
3	135	6
4	185	3
5	235	2

Sample Working Sets

SET	WEIGHT	REPS
6	285	4
7	265	6
8	245	8

* Warm-up sets, not taken to failure.

EVERYTHING YOU WANT, NOTHING YOU DONT

NO ARTIFICIAL SWEETENERS, COLORS OR FLAVORS
NATURAL WHEY PROTEIN



Café Cream
REAL COFFEE

VANILLA
WHITE CHOCOLATE CURLS

CHOCOLATE
BELGIAN CHOCOLATE CURLS

ALPINE STRAWBERRY
DRIED STRAWBERRIES

ALSO AVAILABLE:



NATURALLY FLAVORED AND SWEETNED 4:1:1 RATIO OF BCAA'S & CHERRY PURE™ TO SUPPORT A REDUCTION IN DELAYED ONSET MUSCLE SORENESS (DOMS)



@nfssports



facebook





For better results, try a workout before your workout.

WARM-UP WINNER

Boost performance and thwart injury by upgrading your preworkout routine with dynamic stretching.

BY KARLA DIAL

Make no mistake: Static stretching has its place in any athlete's routine, but if you want to get the most out of each and every workout, make your stretches dynamic. This will prepare you physically and mentally for what you're about to do, provide a measurable increase in performance and reduce your risk of injury.

"It really does get the muscles ready for the activity planned," explains Louis Guarino, a men's Physique competitor and NASM-certified corrective exercise and performance enhancement specialist who works with the Canada-based Lean Bodies Consulting training group. "The purpose is to increase the range of motion of the muscle around the joints without the loss of force production. With prolonged static stretching there's decreased force production, but the

more rapid changes in range with dynamic warm-up modalities can increase range of motion while also increasing force production."

According to research published in *The Journal of Strength and Conditioning Research*, dynamic stretching — which helps to raise core temperature and excite the nervous system — before training helps to improve strength, force production and flexibility compared to groups who use static stretching. Static stretching has a calming effect on the body, and has been proven to improve flexibility when used postworkout for at least 90 seconds per stretch.

Try the full-body plan outlined here next time you're psyching yourself up to battle the iron. It'll take only minutes to complete, and after a few weeks you should find your overall range of motion and performance improving. ■

MOVE, DON'T STRETCH

Using a moderate tempo, perform 10 repetitions of each movement:

PUSH-UP Perform a full push-up to downward dog.

BROOMSTICK UP-AND-OVER Hold a light stick or elastic band across the front of your hips with your arms fully extended, hands slightly wider than shoulder-width apart. Keeping your arms fairly straight, pull the stick over your head in an arc toward your glutes, then pull it back over your head and down in front of your hips for one rep.

STANDING ARM REACH Bend at the waist so your legs are straight and your hands touch your toes (or the floor in front of your toes). Keeping your left hand on the floor and your right arm straight, swing your right arm out to the side until it's perpendicular to the floor. Follow your hand with your eyes to get a good stretch through the ribcage and lats, then reverse the motion. Perform all 10 reps on one side, then switch.

HIP STRETCH Get into lunge position with your back knee touching the floor. Keeping your upper body tall, push gently toward your front knee to stretch the psoas muscle on your rear leg. Perform all 10 reps on one side, then switch.

SIDE-TO-SIDE LEG SWING

Stand tall and grasp a sturdy object for support. Keeping your left leg straight, swing it across your body and back out to the side as high as you can. Perform 10 swings in each direction with each leg.

FRONT-TO-BACK LEG

SWING Stand tall and grasp a sturdy object for support. Keeping your right leg straight, swing it in front of your body and back behind you as high as you can. Perform 10 swings in each direction with each leg.

**NEW
LOOK AND
EXPANDED LINEUP:**
New Fruit Punch Pre-Workout
New Lemonade Iced Tea Pre-Workout
New Creamy Vanilla Recovery Blend

IN PURSUIT OF

IN PURSUIT OF NEW HEIGHTS

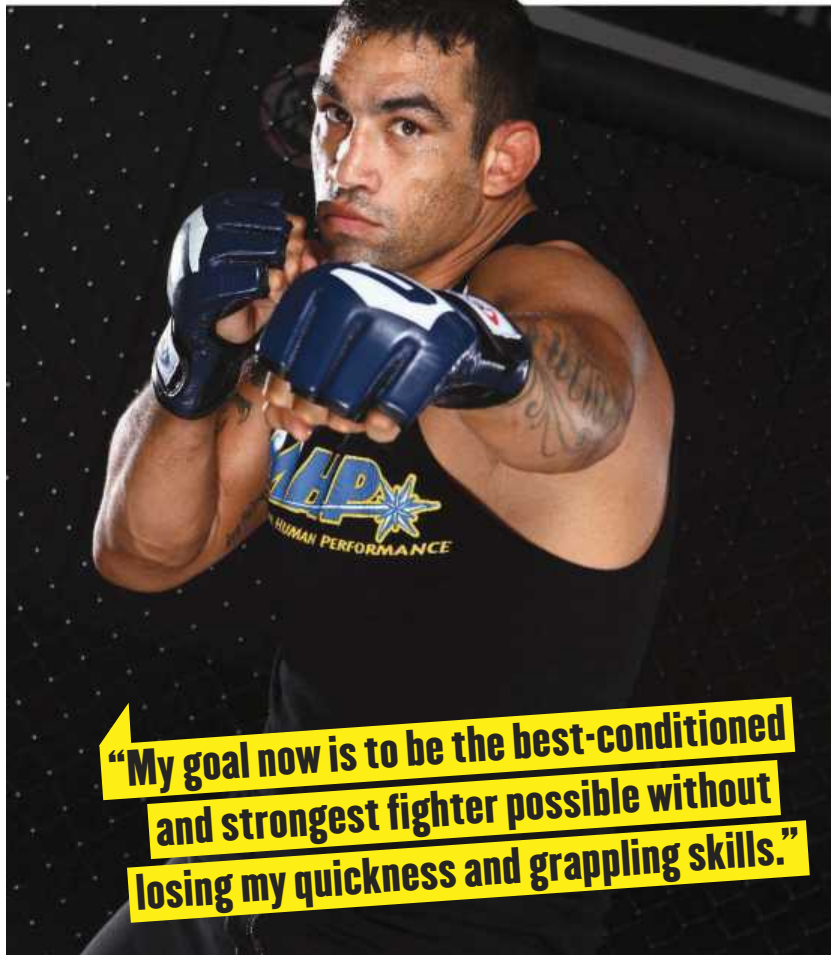
Proven by university studies to enhance performance, Pursuit Rx™ Pre-Workout and Recovery Blend products taste great and deliver fast results for the natural athlete. Find out more at www.pursuitrx.com/research and conquer whatever you're in pursuit of.



LEARN MORE AT PURSUITRX.COM

No gluten. No hormones (rBGH, rBST). No soy. No artificial flavors, colors, or sweeteners.

©2015 DYMATIZE® These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, or prevent any disease. As individuals vary, so will results.



"My goal now is to be the best-conditioned and strongest fighter possible without losing my quickness and grappling skills."

FABRICIO WERDUM

The undisputed UFC heavyweight champ shows what's possible when you add power and strength to an already accomplished fighter's résumé.

BY JON FINKEL

UFC heavyweight champion Fabricio Werdum was a force to be reckoned with before he decided to pack on slabs of muscle and increase his otherworldly strength. In fact, because he stands 6'4" and weighs 230-plus pounds, we find it downright scary to consider what a more powerful, more agile and more motivated Werdum can do in the Octagon. Thankfully, that's not *our* problem. His opponents, however? They've found out the hard way. Just ask vanquished champ Cain Velasquez, who was guillotine-choked out of his belt by Werdum back in June at UFC 188. And in the months to come Werdum plans to strengthen his hold on the title, not in the Octagon but in the gym and the kitchen.

Just before you began a recent undefeated streak, you said you would never lose to another fighter stronger than you. How has your training changed as you've increased your strength?

The big change is that for the past four years I've put a lot more focus on my conditioning and physical training. This came about once I began working with Gerard Dente and MHP in 2011, who pushed me to get bigger and stronger. My goal now is to be the best-conditioned and strongest fighter possible without losing my quickness and grappling skills.

What have been your go-to strength exercises?

I do regular strength training like the

bench press, squat and deadlift but also add intense exercises such as sled pushes, tire flips and kettlebell swings that add total-body strength. Thanks to my coaches and with the nutritional support from MHP products, I've been able to increase my power, explosive strength and muscle mass.

How do you measure your strength progress?

We do regular tests every month so we can measure my progress and plan or change something as needed. I don't always do one-rep maxes, but instead do rep-range maximum sets like max weight at five or eight reps, for instance.

How has your diet evolved along with your training and what are some of your favorite foods?

I eat many of the same foods I have for years. The goal is to eat clean, so that means protein from meat, chicken or fish; carbs from rice, grains and fruit; and healthy fats from nuts. I've found that extra protein is important, which is where supplements are very helpful. MHP's Probiotic-SR is my No. 1 protein choice to help build muscle and recover fully. I especially love barbecue beef but I also love sushi.

What are your favorite supplements to take during training and why?

MHP's Dark Matter is my favorite for postworkout. It refuels my muscles, reduces my soreness and helps me recover faster. I also take Fit Trainer before workouts for added energy, power and endurance. For muscle building and strength I take Myo-X every day. And nothing is a better high-protein snack than Power Pak Pudding; chocolate is my favorite! ■

FABRICIO WERDUM

Birthdate: July 30, 1977

Birthplace: Porto Alegre, Brazil

Current Residence: Redondo Beach, Calif.

Height: 6'4"

Weight: 260 pounds off-season;

230 to 235 pounds fighting weight

Fight record: 20-5-1

werdumcombatteam.com

/fabriciowerdumoficial

@FabricioWerdum

@werdum

The World's #1 Selling Beef Protein!

THE POWER OF BEEF AT THE SPEED OF WHEY

Everyone knows that BEEF BUILDS MUSCLE! Now you can get all the incredible anabolic power of beef with CARNIVOR Bioengineered Beef Protein Isolate. Thanks to advanced hydrolysis and isolation technologies, CARNIVOR is a 99% pure, premium grade protein supplement that's highly bioavailable and loaded with performance enhancing BCAAs and creatine. This powerful Beef Protein Isolate has revolutionized the industry and is bodybuilding's new protein of choice. CARNIVOR digests as fast as whey isolate, but is even more concentrated in muscle building amino acids. And with CARNIVOR, you get all the power of 100% beef with 0 fat, 0 cholesterol, 0 sugar, 0 lactose and 0 gluten. If you want to BEEF UP, it's time to make the switch to CARNIVOR, the world's #1 best selling beef protein!

0 FAT • 0 LACTOSE • 0 SUGAR • 0 GLUTEN



**NOW AVAILABLE
CARNIVOR RTD!**



**HYDROLYZED
FOR FAST
ABSORPTION**

**MORE
CONCENTRATED
THAN WHEY**

**350% MORE
CONCENTRATED
THAN STEAK**

**LOADED
WITH BCAAs
AND CREATINE**

**theVitamin
Shopper®**
every body matters™



Join Team MuscleMeds!

facebook.com/TeamMuscleMeds
twitter: @MuscleMeds
instagram: MUSCLEMEDS

**888.575.7067
MuscleMedsRx.com**

MuscleMeds
PERFORMANCE TECHNOLOGIES

© 2015 MuscleMeds. All rights reserved. These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, cure, treat or prevent any disease. Your results may vary.
*Planet Muscle & Bodybuilding, October 2011, "Best Tasting Chocolate Protein."



GET TO KNOW: OPTIMUM NUTRITION

The industry's gold standard is primed for even more product innovation.

BY JILL SCHILDHOUSE

YEARS IN BUSINESS 29

NUMBER OF EMPLOYEES 1,110 employees worldwide. To provide some perspective on growth, 379 of those (about 34 percent) have been hired since 2014.

BEST-SELLING PRODUCTS Gold Standard 100% Whey is the world's best-selling whey protein and is Optimum Nutrition's (ON) No. 1 product. Essential Amino Energy, which was among the first anytime-energy powdered mixes to hit the market, is currently the company's second-best-selling product. Completing the top three is Gold Standard 100% Casein, the original all-casein protein powder and the first all-micellar casein formula that's still the slow-digesting protein category leader.

NEWEST PRODUCTS ON's latest innovations include Protein Energy, which helps fuel your day with 120 milligrams of caffeine from natural sources along with 20 grams of premium whey protein in each two-scoop serving. There are also vitamins B6 and B12 along with antioxidant vitamin E in each 100-calorie serving. Another new product in the Optimum lineup is Gold Standard Pre-Workout, a banned-substance-free formula that includes 175 milligrams of caffeine from natural sources, 3 grams of Creapure creatine monohydrate, 1.5 grams of CarnoSyn beta-alanine and 1.5 grams of L-citrulline malate. With effortless mixing and outstanding

fruit flavors, this formula is the new gold standard for pre-workout performance.

COMPANY MISSION To continue to set the bar higher for sports nutrition product quality and innovation.

UPGRADES & INNOVATION Optimum Nutrition recently opened a new state-of-the-art powdered product production facility just down the road from the original plant in Aurora, Ill. The company also moved its offices to a high-rise building in Downers Grove and unveiled a spectacular high-tech, interactive Expo booth at the Arnold Sports Festival, all in preparation for a number of new product innovations currently in the works. There will be new-product launches in several categories in time to showcase them during this month's Olympia Weekend.

VARIETY IS THE SPICE OF LIFE "Our standards for quality are so uncompromising, it's not unusual for us to reject truckloads of raw materials that don't meet our high expectations," says Tim Weigard, communications coordinator for ON. "The quality extends beyond superior raw ingredients to include effortless powder mixing and outstanding taste in a wide range of flavors. For example, there are more than 20 flavors of Gold Standard 100% Whey. Who else offers such a variety?"

SNEAK PEEK The company is working on a Vitamin Shoppe exclusive that should be delivered by year-end: strawberry lime-flavored Amino Energy RTD.

GOING PRO ON selected two new athletes, Jessica Vasquez and Evan Shy, from hundreds of submissions to its Ready To Go PRO contest and introduced them at the Arnold Expo in Columbus, Ohio, in March. Vasquez is the reigning Ms. Bikini America and Model Universe champion, and Shy is an NPC physique competitor and fitness model. ■



HELP FUEL YOUR DAY

Your active lifestyle doesn't leave much time to spare. Now there's a convenient solution to help fuel your day with premium whey protein and caffeine from natural sources. Protein Energy™ is ideal first thing in the morning, late in the afternoon or anytime you feel the need for 20 grams of quality protein stacked with 120 mg of caffeine – about as much as a 10 oz cup of coffee. Each 2-scoop serving also delivers Green Tea Extract, Vitamins B6 & B12 and antioxidant Vitamin E to help fuel your day. With just 100 calories, 1 gram of carbs and less than a gram of sugar per 2-scoop serving, Protein Energy™ is the perfect complement for anytime you need Fuel & Energy.



A 2-Scoop Serving Provides:

20G
PROTEIN

120MG
CAFFEINE FROM
NATURAL SOURCES
Green Tea Extract
Vitamins B6 & B12
Antioxidant Vitamin E

100
CALORIES



USA (800) 705-5226 INTL (630) 236-0097

TRUE STRENGTH
WWW.OPTIMUMNUTRITION.COM



These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.



BODYTECH[®]

THE BUILDING BLOCKS OF AN AMAZING PHYSIQUE

Available exclusively at

 **theVitamin
Shoppe[®]**



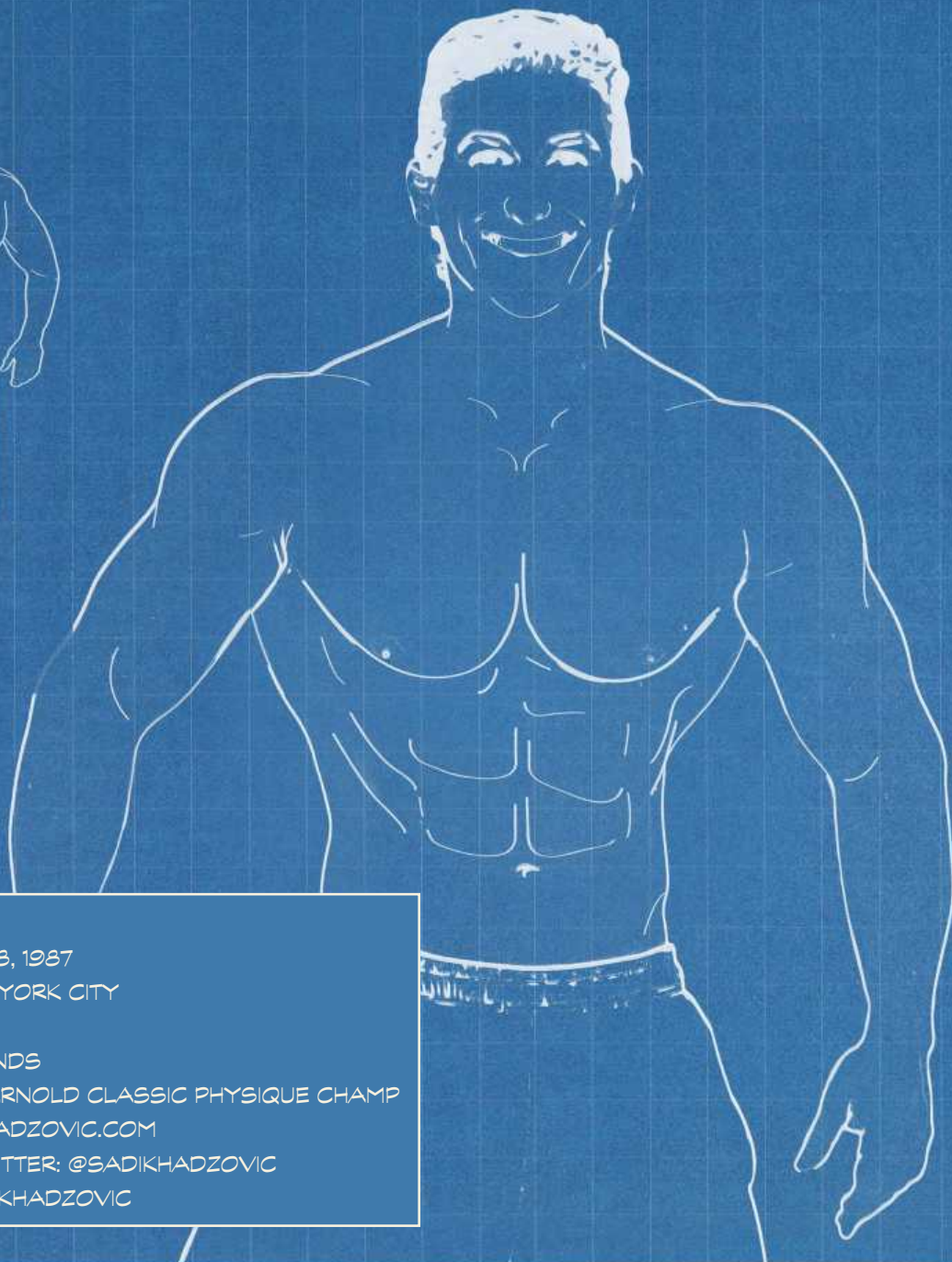
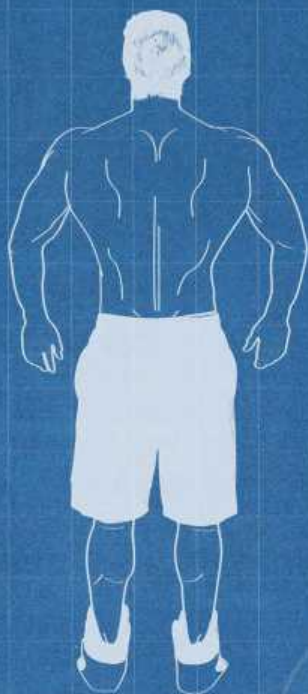
stores nationwide
vitaminshoppe.com

BODYTECH®

When it comes to protein, we have you covered with both powders and puddings. BodyTech® offers whey, whey isolate and casein supplements that come in a variety of delicious flavors. Support your workout and recovery with BodyTech and *start flexing your muscles.*



FIT BODY BLUEPRINT



SADIK HADZOVIC

BIRTHDATE: JUNE 8, 1987

RESIDENCE: NEW YORK CITY

HEIGHT: 5'11"

WEIGHT: 190 POUNDS

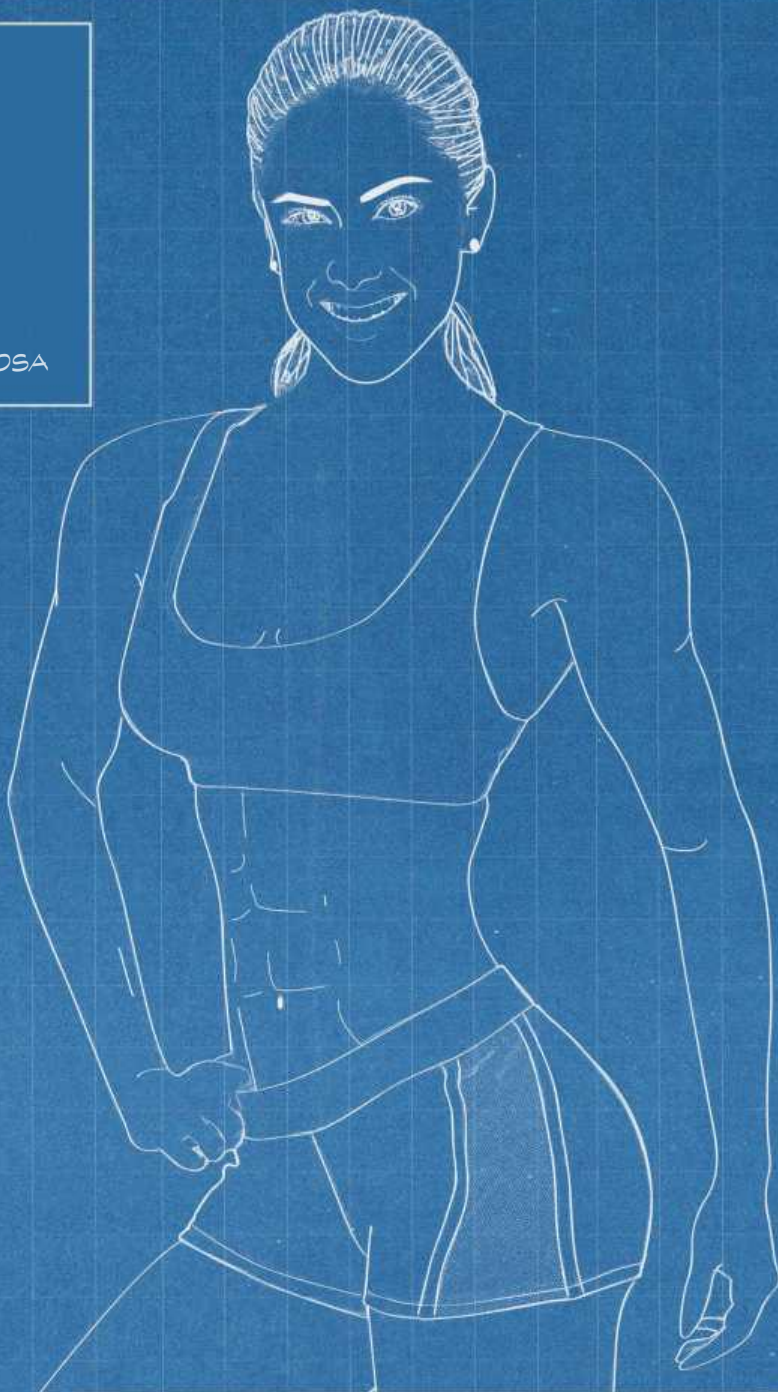
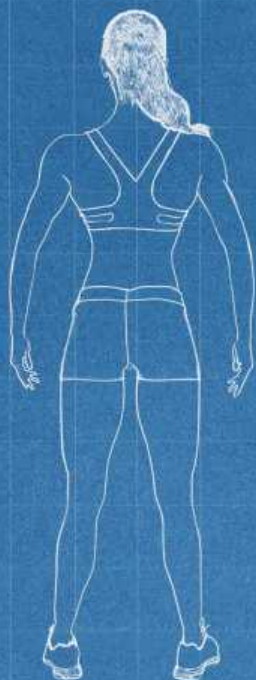
HIGHLIGHT: 2015 ARNOLD CLASSIC PHYSIQUE CHAMP

WEBSITE: SADIKHADZOVIC.COM

INSTAGRAM & TWITTER: @SADIKHADZOVIC

FACEBOOK: /SADIKHADZOVIC

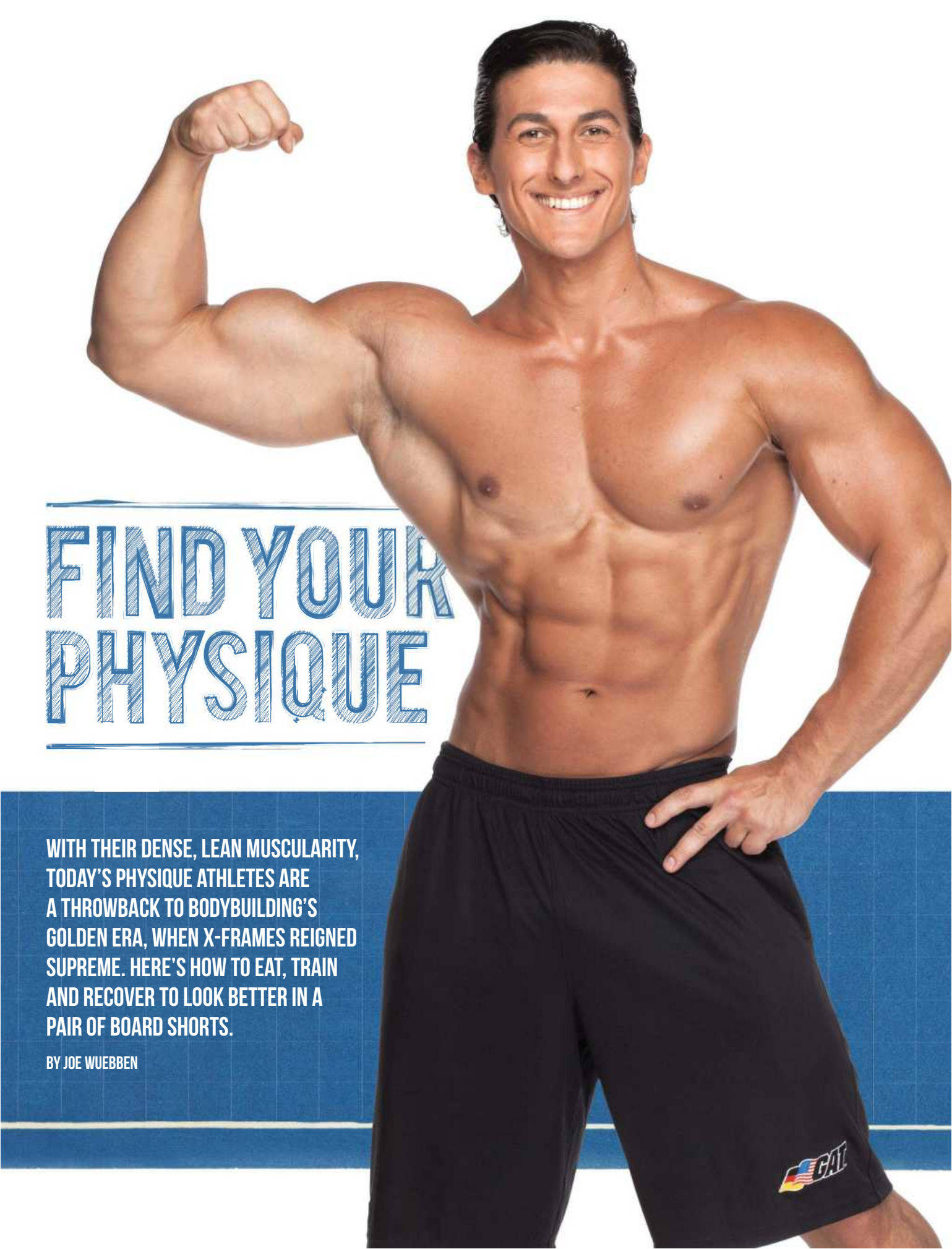
ANETTE DE LA ROSA
BIRTHPLACE: MEXICO CITY
RESIDENCE: SAN DIEGO
HEIGHT: 5'6"
WEIGHT: 120 POUNDS
WEBSITE: ANETTEDELAROSA.COM
INSTAGRAM: @ANETTEDELAROSA
TWITTER: @ANETTEDELAROSAA
FACEBOOK: BIKINIPROANETTEDELAROSA



THE IFBB PHYSIQUE AND BIKINI PRO RANKS ARE REplete WITH SOME OF THE WORLD'S BEST BODIES. M&P LAYS BARE THE HARDCORE ROUTINES AND MEAL PLANS THAT CAN HELP YOU CONSTRUCT YOUR OWN STAGE-WORTHY BODY.

BY JOE WUEBBEN + KARLA DIAL

PHOTOGRAPHY BY CORY SORENSEN

A full-page photograph of a very muscular man, likely a bodybuilder, flexing his right bicep. He is smiling and looking towards the camera. He is shirtless, showing his well-defined chest, abdominal, and arm muscles. He is wearing black athletic shorts with a small logo on the lower right leg. The background is a solid light blue.

FIND YOUR PHYSIQUE

WITH THEIR DENSE, LEAN MUSCULARITY, TODAY'S PHYSIQUE ATHLETES ARE A THROWBACK TO BODYBUILDING'S GOLDEN ERA, WHEN X-FRAMES REIGNED SUPREME. HERE'S HOW TO EAT, TRAIN AND RECOVER TO LOOK BETTER IN A PAIR OF BOARD SHORTS.

BY JOE WUEBBEN

Very few guys have the ability, let alone the desire, to step onstage and go toe to toe with elite-level bodybuilders carrying well over 200 pounds of mass at 4 percent body fat. And since the National Physique Committee (NPC) introduced men's Physique as an active category in 2011, the competitive landscape has changed considerably. Finally, fitness-minded males see athletes onstage they can relate to and possibly even emulate.

A realistic, aesthetic physique to root for: It reminds us of the glory days when Frank Zane reigned in the world of bodybuilding. Speaking of attainable, if you want a body that resembles today's top Physique pros and harkens back to Zane, it's time to start working toward that goal. In the following pages, we'll outline what it takes to chisel out your own classic physique, right down to the rep, gram and calorie. With the road map so clearly drawn, you'll finally see just how achievable a lean, muscular body can be.

PHYSIQUE TRAINING PRINCIPLES

Successful Physique athletes pull their training protocols from a variety of disciplines. Developing muscle size and shape is paramount, so their workouts often look similar to bodybuilders' routines. Yet they also want to display a fit, athletic look, as if they could step off the stage in their board shorts and go straight to the beach for a couple of hours of surfing, so many of their workout plans tend to include explosive movements and high-intensity cardio. These days, people go to the gym to achieve a wide range of goals simultaneously: size, strength, leanness, endurance, athleticism and functional fitness, to name a few. The

are trained on different days, is the way to go versus hitting more or less the full body in every session. Three to five exercises per muscle group per workout, three to four sets of each movement, is a solid recommendation. As for rep ranges, your best bet is to stay in the widely accepted hypertrophy window of anywhere from eight to 15 reps (and occasionally up to 20) per set.

TRAINING FOR POWER/STRENGTH/ATHLETICISM

While size, shape and overall aesthetics are of utmost importance in the Physique division, a fit, athletic look with sleek lines is favored over a blocky, muscle-bound appearance. This is where Olympic lifting, plyometrics and other explosive move-

ments come into play on a regular (weekly) basis. Developing muscular power translates directly to strength, and even indirectly to size, as you'll be able to lift more weight for more reps to overload your muscles. There's a reason Olympic-style lifts and power exercises like box jumps have become popular in the last decade or so: They help achieve myriad goals, from the aesthetic to the functional.

TRAINING FOR HYPERTROPHY

When you want to maximize quality muscle mass, training each major muscle group with high volume (total number of sets) is key. That's why a traditional bodybuilding split, where different bodyparts

are trained on different days, is the way to go versus hitting more or less the full body in every session. Three to five exercises per muscle group per workout, three to four sets of each movement, is a solid recommendation. As for rep ranges, your best bet is to stay in the widely accepted hypertrophy window of anywhere from eight to 15 reps (and occasionally up to 20) per set.

TRAINING FOR LEANNESS

Long, slow sessions on the treadmill, stationary bike and/or elliptical still have their place for burning calories and shedding body fat, but high-intensity interval training (HIIT) has become the king of cardio as of late. The general premise of a HIIT workout is simple: Go hard (sprint) for a short bout, then go easy, and repeat for anywhere from four to 25 minutes. The intense nature of these brief but grueling routines has proven to be a much more efficient way to burn fat than low-intensity cardio.

"I do HIIT sessions two to three times a week for 15 to 25 minutes while in a muscle-building phase," says NPC Physique competitor and Dymatize athlete Jared Groff. "During contest prep, I extend those HIIT sessions to 30 minutes and add in two to three steady-state cardio workouts of 45 to 60 minutes, adjusting week by week depending on how fast my body is cutting."

"THERE'S A REASON OLYMPIC-STYLE LIFTS AND POWER EXERCISES LIKE BOX JUMPS HAVE BECOME POPULAR IN THE LAST DECADE OR SO: THEY HELP ACHIEVE MYRIAD GOALS, FROM THE AESTHETIC TO THE FUNCTIONAL."

PHYSIQUE TRAINING PROGRAM

The training split and sample workouts you see here are recommended and actually followed by elite Physique competitor, personal trainer and Dymatize Nutrition-sponsored athlete Jared Groff. Follow this program for eight weeks for maximum results. Perform five to 10 minutes of dynamic warm-ups (see page 30) followed by specific warm-up sets, as outlined.

SAMPLE PHYSIQUE TRAINING SPLIT

DAY	LIFTING	CARDIO
1	Chest, shoulders	HIIT (25 minutes at any time of day)
2	Back	Steady state (45-60 minutes in the morning)
3	Arms	HIIT (25 minutes at any time of day)
4	Legs	Steady state (45-60 minutes in the morning)
5	Pump Day*	Fun activity of choice
6	Explosive Day	No additional cardio
7	Rest	

* Back plus one additional bodypart of your choosing.

Rest 90 to 120 seconds between all sets and exercises in Week 1 and reduce rest as you become more conditioned.

SAMPLE BODYPART WORKOUTS

DAY 1: CHEST, SHOULDERS

EXERCISE	SETS	REPS
Barbell Bench Press	4	15-20*, 10, 10, 8
Dumbbell Lateral Raise	3	15
Incline Dumbbell Press	3-4	12
One-Arm Hammer Strength Overhead Press	3	12-15 per arm
Decline Cable Flye	3	15
Arnold Press	3	15, 12, 12
Diamond Push-Up	3	to failure

*These are performed as warm-up sets, not done to failure.

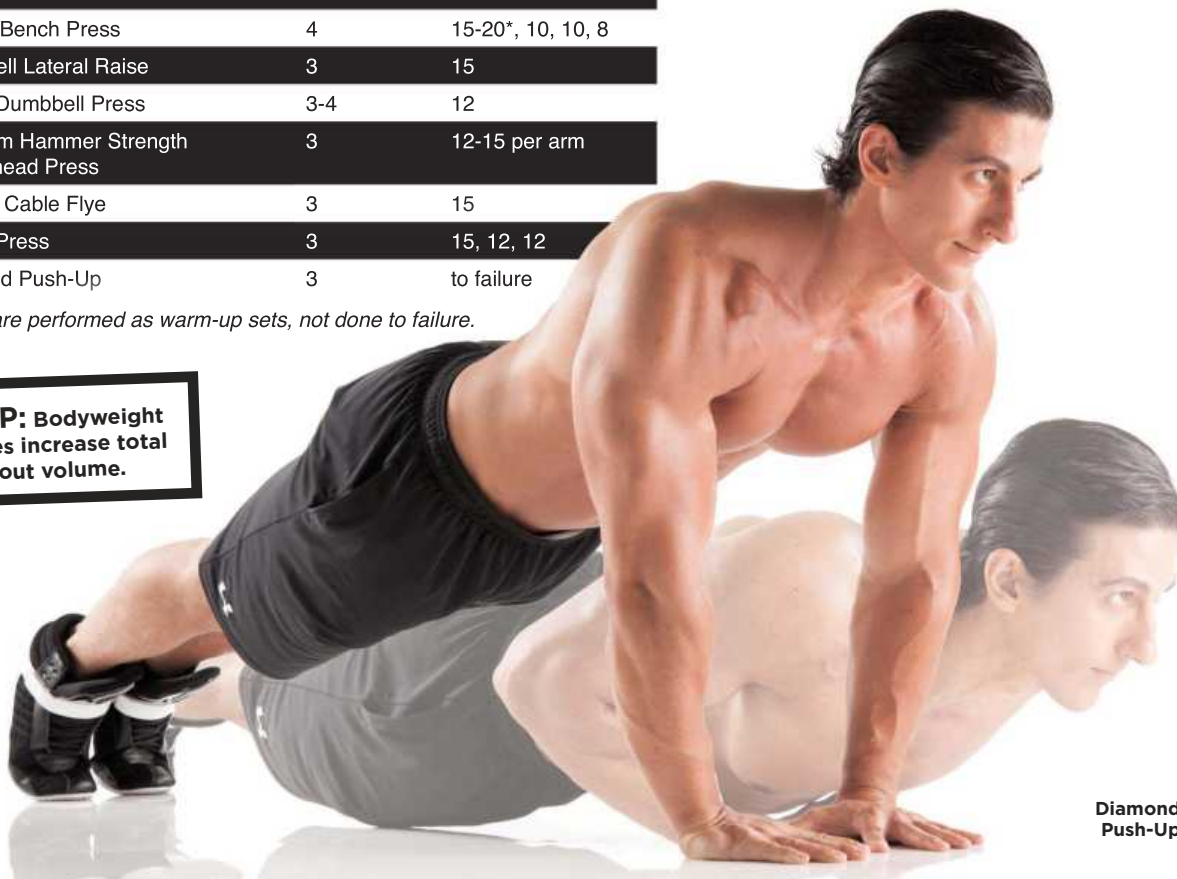
***TIP:** Bodyweight moves increase total workout volume.

Dumbbell Lateral Raise



***TIP:** Target your middle delts early in your workout with lateral raises.

Diamond Push-Up



DAY 2: BACK

EXERCISE	SETS	REPS
Pull-Up (underhand grip)	3	10-12
Pull-Up (wide overhand grip)	3	10-12
Barbell Bent-Over Row	3	12-15
Wide-Grip Lat Pulldown	3	12
One-Arm Dumbbell Row	3	12 per arm
Straight-Arm Pulldown	3	15-20
Seated Cable Row	3	15-20

***TIP:** Doing a wide variety of rows is crucial to building upper-back depth and detail.



One-Arm Dumbbell Row

DAY 3: ARMS

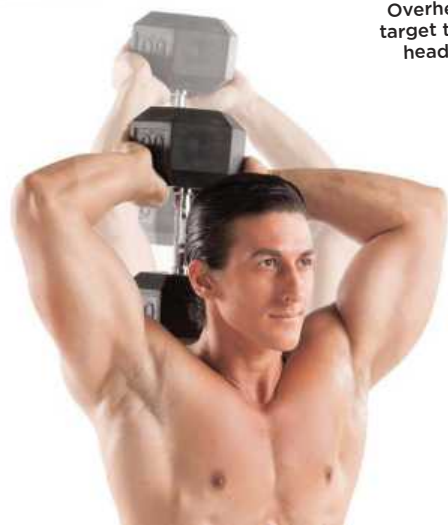
EXERCISE	SETS	REPS
ALTERNATING DUMBBELL CURL	3*	15-20
OVERHEAD DUMBBELL TRICEPS EXTENSION	3*	20
STANDING CABLE CURL (STRAIGHT BAR)	4	15, 12, 10, 8
MACHINE DIP	3	12-15
BARBELL PREACHER CURL	3-4	10-12
REVERSE-GRIP CABLE PRESSDOWN (STRAIGHT BAR)	3	15
DUMBBELL HAMMER CURL	4	10, 8, 8, 6
TRICEPS PRESSDOWN (ROPE)	3	15-20

*THESE ARE PERFORMED AS WARM-UP SETS, NOT DONE TO FAILURE.

Hammer curls train the brachialis, which helps to elevate the height of your peaks.



Overhead extensions target the meaty long head of the triceps.





Barbell
Squat

***TIP:** Squats not only add leg size but also help send your metabolism soaring.

“MACRONUTRIENT NEEDS CHANGE DEPENDING UPON THE ATHLETE’S SIZE, AGE, METABOLIC CAPACITY AND LEVEL OF BODY COMPOSITION.”

DAY 4: LEGS

EXERCISE	SETS	REPS
Barbell Squat	5	20*, 12, 10, 5, 3
Leg Press	4	10-12
Seated Leg Curl	4	12
Leg Extension	4	15, 12, 10, 8
Seated Calf Raise	4	15

**These are performed as warm-up sets, not done to failure.*

DAY 5: PUMP DAY

CHOOSE FROM ANY OF THE PREVIOUS WORKOUTS TO ATTACK LAGGING AREAS. “I FOCUS ON BACK AND ONE OTHER BODYPART FOR MOST OF THE WORKOUT, BUT I MAKE SURE TO GET A FULL-BODY PUMP,” SAYS GROFF. “THIS TAKES JUST 45 MINUTES.”

DAY 6: EXPLOSIVE DAY

“THIS WORKOUT CONSTANTLY CHANGES IN ORDER TO CHALLENGE THE BODY,” SAYS GROFF. “I TYPICALLY USE EXERCISES SUCH AS BARBELL CLEANS, DEADLIFTS AND BOX JUMPS (LIFTING/POWER); BROAD JUMPS, LUNGE JUMPS AND SQUATS (PLYOMETRICS); AND SPRINTS, STAIRS AND SKIPS (CARDIO).” FOR EXPLOSIVE MOVES, KEEP TOTAL VOLUME LOW AND REST HIGH. SELECT THREE TO FIVE MOVES AND PERFORM THREE TO FIVE SETS OF THREE TO FIVE REPS WITH UP TO THREE MINUTES OF REST.

PHYSIQUE-BUILDING NUTRITION

The underlying nutritional principles for attaining a competition-caliber physique revolve around building as much muscle as possible while staying superlean. There's a fine line between eating too much and losing muscle definition and eating too little and sacrificing mass, but with a solid plan, attention to detail and a little discipline you can find a happy medium.

It all starts with protein, since build-

ing muscle and then keeping it is job one. Carbohydrate and dietary fat intake often fluctuates depending on the individual and the particular phase he's in, whether mass building or leaning out. "Macronutrient needs change depending upon the athlete's size, age, metabolic capacity and level of body composition," says Groff.

David Morin, ACE-certified trainer, fitness cover model and owner of Morin

Fitness (getmorinfitness.com), has a specific macronutrient breakdown that helps keep him extremely lean but also muscular: "The ratio that works for me Monday through Saturday is 60 percent protein, 25 percent fat and 15 percent carbs," he says. "Then on Sunday I carb-load and don't really track anything. When it comes to diet, I'm very focused on packing as many nutrients into a lower-calorie diet as possible."

SAMPLE PHYSIQUE MEAL PLAN

Here's a typical hard-training day of in-season eating for Groff; on rest and cardio-only days he would drop his carbohydrate intake considerably. As a sponsored athlete, he uses Dymatize supplements exclusively where protein powders, mass-gainers and pre-workouts are listed. Feel free to substitute your favorite brands here.

MEAL 1

- 7 egg whites
- ½ cup oatmeal (dry measure) mixed with water and...
- 3-4 scoops mass-gainer powder

873 calories, 90 g protein, 108 g carbs, 9 g fat

MEAL 2

- 2 scoops whey protein powder
- 1½ tablespoons natural peanut butter
- ½ cup sliced apples

396 calories, 56 g protein, 16 g carbs, 12 g fat



MEAL 3

- 6-8 ounces chicken breast
- 4-6 ounces sweet potato or 1 cup brown rice
- 1 cup mixed greens

400 calories, 51 g protein, 49 g carbs, 0 fat

MEAL
4

- 2 scoops whey protein powder
- 1½ tablespoons natural peanut butter

360 calories, 56 g protein, 7 g carbs, 12 g fat

MEAL
5

- 6-8 ounces white fish or chicken breast
- Green salad with: 1 tablespoon vinegar, 1 tablespoon olive oil, 1 cup mixed greens

362 calories, 40 g protein, 1 g carbs, 22 g fat

MEAL
6

- 6 egg whites
- OR 1½ scoops casein protein powder

96 g, 24 g protein, 0 carbs, 0 fat

PREWORKOUT (30 minutes before training)

- 1 serving pre-workout product
- 25 grams liquid carbs (glycogen supplement)

100 calories, 0 protein, 25 g carbs, 0 fat



POSTWORKOUT (immediately after training)

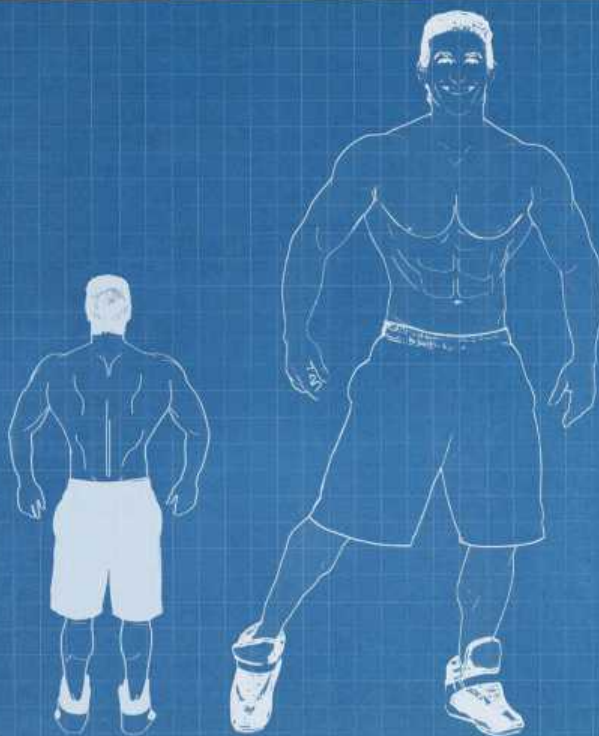
- 2 scoops whey protein powder
- 50 grams liquid carbs (glycogen supplement)

408 calories, 50 g protein, 52 g carbs, 0 fat



**APPROXIMATE
DAILY TOTALS:**

**2,995 calories,
367 grams protein,
258 grams carbs,
55 grams fat**



**ANATOMY OF A
PHYSIQUE COMPETITOR:**

- SMALL, TAPERED WAIST
- WELL-DEVELOPED MIDDLE DELTS
- DENSE, LEAN MUSCULARITY
- GOOD MUSCLE SYMMETRY
- STAGE PRESENCE AND PERSONALITY


**NOTE: COMPETITORS CAN
BE MARKED DOWN FOR
WHAT IS DEEMED "EXTREME"
MUSCULARITY.**

White Flood Reborn™ has finally been replaced by a superior preworkout supplement in our new White Rapids™. White Rapids™ is a completely new formula that addresses the needs of today's gym goer: Energy, Pumps, and Stamina. Not only is your body treated to these beneficial ingredients, but so is your mind. Distractions are a thing of the past with the addition of mental focus based components. Life is rapid; get a preworkout that can keep up!



SEE HIM TRAIN...
www.TRAININSANE.TV.COM
www.Controlledlabs.com

 theVitamin
Shoppe

A full-page photograph of a woman with dark hair tied back, smiling and flexing her right bicep. She is wearing a bright blue sports bra and black athletic shorts. The background is a plain, light color.

BIKINI BOD CONSTRUCTION

IT'S LEAN-MEETS-CURVY IN
THE STILL-GROWING REALM
OF BIKINI COMPETITION.
HERE'S HOW YOU CAN
TRAIN (AND EAT) TO
ACHIEVE THAT CLASSY
COVER-MODEL LOOK,
CRYSTAL HEELS OPTIONAL.

BY KARLA DIAL

Six years ago, the powerbrokers in the International Federation of Bodybuilding and Fitness (IFBB) found themselves with a golden opportunity. With the advent of Figure competitions in 2001, which required neither the freaky size of bodybuilding nor the gymnastics/dance prowess of Fitness, more women than ever were signing up to hit the stage in crystal heels and quarter-turn to the right. Some sports festivals and other leagues began conducting model searches, looking for beautiful girls with more mainstream physiques: less muscular, not striated, just balanced from front to back and top to bottom, with good muscle tone and definition. It was an untapped market, and one the powerbrokers were happy to explore.

"We brought in Bikini shows [NPC in 2009, IFBB in 2010] because it gave us the ability to reach more consumers under the National Physique Committee umbrella," explains Lee Thompson, the NPC Texas state chairman and one of the IFBB's head judges. "It's an attainable look that runs the spectrum from the very competitive Olympia models to someone who has lost 100 pounds and now wants to sculpt her physique."

The new category is the hottest thing to hit two-piece posing suits in the last decade. In a Bikini competition, sass meets class and personality plays as much a part as physique. The growth, says Thompson, has been exponential: On average, about 55,000 people nationwide compete in the NPC and nearly 40 percent of that number is now comprised of Bikini competitors.

Boom. Market tapped, indeed.

BIKINI TRAINING PRINCIPLES

In a simplified nutshell, Bikini judges are looking for Muscle Barbie meets the *Sports Illustrated* swimsuit issue. You're going for an hourglass shape, with a tiny waist and full chest and glutes, great skin, and flawless hair and makeup. "It's like an athletic beauty contest, which is more attainable for

categories are won from the back — it's the hardest area for ladies to keep lean thanks to estrogen — there's an extra emphasis on tight, round glutes and a sharp glute-ham tie-in for Bikini competitors.

Although there's only one goal here, the way to achieve it is as individual as each competitor. Successful training regimens could range anywhere from a typical bodybuilding-style workout to circuit training, plyometrics and tri-sets, depending on a woman's starting point and genetics.

TRAINING FOR SYMMETRY

"The training is not that different from Figure to Bikini," says Ann Claiborne, a certified nutritionist and national-level amateur Figure competitor in Colorado who, along with her bodybuilder husband Tony, runs the Ultimate Transformations physique competition team. "It's just that some girls in Bikini don't have that much muscle to begin with, so they have to train hard in the time they have to get ready. Figure girls know they have to train for years before they're ready to step onstage, so for the most part it's just about trying to stay symmetrical."

Both the Claibornes and Montabone strongly suggest having a qualified

some women," explains Summer Montabone, CSCS, an IFBB Fitness pro who now coaches Ashley Kaltwasser — the first-ever Bikini Olympia champion — for the Ohio-based Team VIP (Very Impressive Physique).

Since all women's

coach perform a physique assessment to determine which category best suits an individual before she embarks on a program. "Sometimes a person's bone structure will limit her success in a particular sport," Montabone explains. But if Bikini is a good fit, then it's just a matter of adding small amounts of muscle here and there while reducing body fat to get that hourglass shape. For most women that means defining the shoulders, whittling the waist and rounding out the glutes.

"I find that people in the middle height range typically do pretty well," Montabone says. "It's hard for really tall people to put on a lot of muscle. Some girls whose previous training was a lot of CrossFit or powerlifting are built kind of like a box. It takes a long time to streamline those physiques."

TRAINING FOR LEANNESS

For Kaltwasser, who came to Bikini competition from a track and gymnastics background, weekend 5Ks played a big part in helping her repeat her 2013 Bikini Olympia win in 2014. "It was cardio without really being cardio," she says. "I'm a big fan of HIIT, as well. I don't do a lot of long, slow cardio. I also like Jacob's Ladder, the StepMill and boot camp classes."

But if your athletic and genetic base isn't so strong that you can get away with just eight weeks of prep at the pro level like Kaltwasser, leaning out will probably be more involved. Ultimate Transformations clients may do between 20 and 45 minutes of steady-state cardio on an empty stomach first thing in the morning, depending on their progress. Tony Claiborne also likes to use an hourlong HIIT routine with new clients three times a week for the first month to shock their systems before progressing to a more

ON AVERAGE, ABOUT 55,000 PEOPLE NATIONWIDE COMPETE IN THE NPC AND NEARLY 40 PERCENT OF THAT NUMBER IS NOW COMPRISED OF BIKINI COMPETITORS."

traditional lifting/cardio program, which allows him to see where the focus needs to go.

Montabone says less is more when it comes to cardio. "You shouldn't be using excessive amounts of cardio to combat poor eating," she explains. "If you're in the gym for hours and hours, something in your program isn't working. You're also setting yourself up for long-term damage and fat gain. We believe in shorter, more efficient workouts."



***TIP:** Combining a squat and an overhead press, thrusters work a ton of muscle while also providing a significant metabolic boost.

Dumbbell Thruster

BIKINI TRAINING PROGRAM

SHOCK AND AWE | WEEKS 1-4

Use this program three times per week, allowing at least one day of rest in between. This HIIT program uses a 1:1 work:rest ratio, with 60 seconds of exercise followed by 60 seconds of rest. Complete the circuit, rest five minutes, then repeat once. Stop after 60 minutes regardless of how far you've gotten in the second circuit. As you progress, shorten the rest phase to 45 seconds.

EXERCISE

Dumbbell Thruster

Bosu Ball Lateral Hop holding 20-pound medicine ball

Bosu Ball High Kick holding 20-pound medicine ball

Kettlebell Stiff-Legged Deadlift

Medicine-Ball Squat Jack

Kettlebell Swing

Kettlebell Split Jump

Lying Barbell Hip Thrust

Back Extension

Barbell Row

Dumbbell Lateral Raise

Dumbbell Gladiator Raise

TRX Rip Trainer Push

TRX Rip Trainer Pull

TRX Knees to Chest/Pike



***TIP:** While isolation moves are important, Bikini athletes focus primarily on multi-joint staples such as rows, squats and presses to build tight, shapely muscle.

Barbell Row



Dumbbell Lateral Raise

SUCCESSFUL TRAINING REGIMENS COULD RANGE ANYWHERE FROM A TYPICAL BODYBUILDING-STYLE WORKOUT TO CIRCUIT TRAINING, PLYOMETRICS AND TRI-SETS.

SAMPLE BIKINI TRAINING SPLIT | WEEKS 5-8

The emphasis here is on bringing up the legs and glutes. Perform both dynamic and specific warm-ups for five minutes before all workouts. Rest 60 to 90 seconds between sets and exercises. For supersets, move quickly between exercises, then rest 60 to 90 seconds after each superset.

DAY	LIFTING	CARDIO
1	Legs	20-45 minutes fasted steady-state cardio
2	Chest	
3	Back	20-45 minutes fasted steady-state cardio
4	Off	
5	Legs	
6	Shoulders	20-45 minutes fasted steady-state cardio
7	Chest	



***TIP:** A steady diet of deadlifts maximizes muscle density, builds total-body strength and elevates postworkout calorie burn.



SAMPLE LIFTING WORKOUTS

DAYS 1+5: LEGS

EXERCISE	SETS	REPS
One-Leg Extension	3	20, 15, 10 (each leg)
Leg Extension	1	15
One-Leg Lying Leg Curl	3	12
Stiff-Legged Deadlift	3	12
Deadlift	3	12
Reverse Dumbbell Lunge	3	12 (each leg)
Hack Squat ¹	3	20/20, 15/15, 10/10
-superset with-		
Step-Up	3	15

¹ Within each set, perform the prescribed number of reps with both wide and narrow foot spacing.

“TO GET THAT HOURGLASS SHAPE, ADD SMALL AMOUNTS OF MUSCLE WHILE REDUCING BODY FAT. THAT TYPICALLY MEANS DEFINING THE SHOULDERS, WHITTILING THE WAIST AND ROUNDING OUT THE GLUTES.”



***TIP:** This is one of the best exercises for shaping the glute-ham tie-in, but it also places a heavy demand on the quads.

Reverse Dumbbell Lunge

DAYS 2+7: CHEST

EXERCISE	SETS	REPS
SMITH MACHINE INCLINE BENCH PRESS	6 ²	20, 15, 10, 15, 10, 3
INCLINE DUMBBELL PRESS	3	12, 10, 8
INCLINE DUMBBELL FLYE	3	12, 10, 8
INCLINE CABLE BENCH PRESS	3	15, 12, 10
INCLINE CABLE FLYE	3	15, 12, 10
CABLE PULLOVER	3	12

2 REDUCE THE INCLINE ON YOUR FOURTH SET.

Incline Dumbbell Press



***TIP:** Incline presses and flyes target the muscles of the upper chest.



Incline Dumbbell Flye

DAY 3: BACK

EXERCISE	SETS	REPS
Assisted Wide-Grip Pull-Up ³	3	15
Wide-Grip Lat Pulldown	3	15, 12, 10
Wide-Grip Straight-Arm Pulldown	3	15, 12, 10
Neutral-Grip Pulldown	3	15, 12, 10
Seated Cable Row	3	15, 12, 10
Hammer Strength Close-Grip Row	3	12, 10, 10

3 Reduce assistance on each set.

DAY 6: SHOULDERS

EXERCISE	SETS	REPS
Arnold Press	3	15, 12, 10
Smith Machine Overhead Press	4	20, 15, 10, 20 ⁴
Smith Machine Upright Row	3	10, 8, 5
Dumbbell Lateral Raise	4	15, 10, 8, failure
Incline Bench Reverse Flye	3	12
Barbell Upright Row	3	8
-superset with-		
Standing Barbell Overhead Press	3	8

4 After reaching failure on the third set, reduce the weight immediately and select a weight that you can handle for 20 reps.

Incline Bench Reverse Flye



***TIP:** Reverse flyes work the upper-back muscles.

***TIP:** The upright row can be done with or without the Smith.



Barbell Upright Row

***TIP:** Overhead presses cap off your shoulders and give the illusion of a smaller waist.



Standing Barbell Overhead Press

EATING TO WIN

Carb cycling is a great way to keep the body guessing and losing fat consistently. Ann Claiborne uses a 3:1 ratio of low:high carb days with her Bikini clients. "This allows me to assess whether someone's body prefers higher carbs and lower fats for energy, or higher fats with lower carbs," she says. "Each person is different." Claiborne also includes a fun

meal once every week or two to help reset the metabolism throughout the dieting process. Summer Montabone uses a food-swapping program with her clients to encourage them to eat a varied diet that still meets their macronutrient breakdowns. "Make sure you eat healthy foods that are nutrient-dense," she says. "If you eat the exact same thing every day, you'll get bored and your body will stop responding. But if you have too many choices, it can make it hard to find the problem if something isn't working."

SAMPLE BIKINI MEAL PLAN

Although everyone is different, Claiborne likes to start with a meal plan that cycles between high- and low-carb days. Use this as your starting guideline and adjust based on results.

DAY	PLAN
1	Low-carb
2	Low-carb
3	Low-carb
4	High-carb
5	Low-carb
6	Low-carb
7	Low-carb

FORBIDDEN RICE IS AN ANTIOXIDANT- AND IRON-RICH GRAIN THAT'S ALSO REPLETE WITH DIGESTION-SLOWING FIBER.

SAMPLE LOW-CARB MEAL PLAN

UPON WAKING: 8 ounces warm filtered water with the juice of half an organic lemon

MEAL 1

- 4 egg whites + 1 whole egg
- ¼ cup oat groats (or steel-cut oats)
- 10 almonds

308 calories, 20 g protein, 30 g carbs, 12 g fat

MEAL 2

- 4 ounces boneless, skinless chicken breast
- 2 ounces sweet potato with skin (boiled or baked)
- 1 cup steamed Swiss chard
- 2 ounces avocado

280 calories, 26 g protein, 17 g carbs, 12 g fat

MEAL 3

- 4 ounces boneless, skinless chicken breast
- ½ cup forbidden rice
- 2 large handfuls organic mixed greens

279 calories, 29 g protein, 34 g carbs, 3 g fat

MEAL 4

Blend the following ingredients into a shake:

- 1 scoop whey protein powder
- ½ banana
- 1 tablespoon natural peanut butter
- 1 handful spinach

255 calories, 28 g protein, 20 g carbs, 7 g fat

MEAL 5

- 4 ounces halibut
- ½ cup brown rice (or oatmeal)
- 1 cup sliced zucchini or yellow squash (sautéed with light cooking spray)
- 2 large handfuls organic mixed greens

292 calories, 32 g protein, 32 g carbs, 4 g fat

MEAL 6

Blend the following ingredients into a shake:

- 1 scoop whey protein powder
- 2 handfuls spinach
- 8 ounces unsweetened almond milk
- Water to taste

155 calories, 28 g protein, 4 g carbs, 3 g fat

APPROXIMATE DAILY TOTALS: 1,569 calories, 163 grams protein, 137 grams carbs, 41 grams fat

SAMPLE HIGH-CARB MEAL PLAN

UPON WAKING: 8 ounces warm filtered water with the juice of half an organic lemon

MEAL 1

- 4 egg whites
- ½ cup oat groats (or steel-cut oats)
- 10 to 12 steamed asparagus spears

393 calories, 24 g protein, 54 g carbs, 9 g fat

MEAL 2

- 4 ounces extra-lean red meat
- 3 ounces sweet potato with skin (boiled or baked)
- 1 handful fresh green beans

292 calories, 26 g protein, 20 g carbs, 12 g fat

MEAL 3

- 4 ounces extra-lean ground turkey
- 1 cup forbidden rice
- 1 large handful broccoli florets

295 calories, 27 g protein, 40 g carbs, 3 g fat

MEAL 4

Blend the following ingredients into a shake:

- 1 scoop whey protein powder
- ½ banana
- 1 rounded tablespoon whole rolled oats
- 1 handful spinach

275 calories, 28 g protein, 25 g carbs, 7 g fat

MEAL 5

- 4 ounces boneless, skinless chicken breast
- 1 cup quinoa
- 1 cup fresh cucumber
- ¼ cup red bell pepper

313 calories, 32 g protein, 35 g carbs, 5 g fat

MEAL 6

Blend the following ingredients into a shake:


- 1 scoop whey protein powder
- 2 handfuls spinach
- 8 ounces unsweetened almond milk
- Water to taste

155 calories, 28 g protein, 4 g carbs, 3 g fat

APPROXIMATE DAILY TOTALS:

**1,723 calories, 165 grams protein,
178 grams carbs, 39 grams fat ■**

“YOU DON'T WANT TO EAT THE SAME THING EVERY DAY, BUT IF YOU HAVE TOO MANY CHOICES, IT CAN BE HARD TO FIND THE PROBLEM IF SOMETHING ISN'T WORKING.”



ANATOMY OF A BIKINI COMPETITOR

- GOOD OVERALL LOOK AND UNIQUE STAGE PRESENCE
- LESS MUSCULAR THAN FIGURE AND FITNESS COMPETITORS
- BALANCE AND SYMMETRY BETWEEN UPPER AND LOWER BODY
- GOOD MUSCLE TONE AND DEFINITION
- SMALL WAIST
- FULL CHEST
- SHAPELY GLUTES

HARDCORE THERMO GENIC

NEW Xenadrine Core™ unleashes a unique, dynamic and powerfully potent ingredient combination that will set a new standard for what a hardcore thermogenic should be. The iconic brand that provides real results is ready to revolutionize the game, again.

“I’ve taken thermo pills before, but have never come across anything this potent.”

— **yova1**, ACTUAL USER REVIEW FROM XENADRINE.COM
Received product as a free sample

THE FUTURE OF THERMOGENICS

Sought-after ingredients **gotu kola**, **perilla seed**, **yohimbe bark** and **forskolin** unleash an exhilarating sensation designed for your most hardcore demands. You’ll feel a surge from the very first serving!

UNRIVALED SENSORY & ENERGY

Feel the supercharged rush coursing through your body after the very first dose. This sensory surging formula is enhanced with caffeine anhydrous to provide unmatched intensity and energy.

POWERFUL WEIGHT LOSS RESULTS

Get ready for real hardcore results. Backed by two scientific studies including one published in the prestigious journal *Phytothérapie*, Xenadrine Core™ includes a key weight loss ingredient that helped test subjects lose 10.9 lbs. in 60 days with a low-calorie diet.¹

SCIENTIFICALLY RESEARCHED KEY WEIGHT LOSS INGREDIENT



¹Average weight loss with the key ingredient (200mg green coffee) in Xenadrine Core™ was 10.9 lbs. vs. 5.4 lbs. in a 60-day study with a low-calorie diet, and 3.7 lbs. vs. 1.25 lbs. in a separate 8-week study with a calorie-reduced diet and moderate exercise.

NEW!





PROVEN INGREDIENTS **RE-IMAGINED**



GAMMA-B
TO SUPPORT L-CARNITINE
PRODUCTION[†]

+PLUS SERIES

FEATURES
PARADOXINE® FOR
SUPPORTING INCREASES
IN WHOLE BODY ENERGY
EXPENDITURE AND FAT USE[†]



THE
THERMOGENIC,
PERFORMANCE
BOOSTING
CARNITINE

The L-carnitine blend includes superior forms of L-carnitine that have been shown to promote brain function, recovery from exercise, an increase in muscle carnitine levels and a healthy cardiovascular system. Also includes Gamma butyrobetaine to support your body's own L-Carnitine production and Grains of Paradise to support thermogenesis.[†]



CRAFTING THE PERFECT FAT-LOSS STACK

Your body burns fat via multiple mechanisms. **Use the right supplements** to maximize each pathway for a year-round lean physique. / BY JONATHAN MIKE, PHD, CSCS, NSCA-CPT, USAW

It's September.

Traditionally, this is a time when hard-lifting athletes start to let their physiques fade into the ether along with the mercury of the summer temps. But letting your waistline widen too much for the winter ultimately keeps you from realizing just how lean and athletic you can look and leaves you like the majority of America: scrambling for a solution come Jan. 1. But if you adopt the right fat-burning stack at this time of the year — especially when combined with training programs and diets like those starting on page 38 — you can get through the winter within arm's reach of your best shape ever. You just have to know what to look for.

CATEGORICAL FAT-BURNING

Fat-burners are an easy sell. The main premises (or promises) of these supplements are acutely increased fat metabolism or energy expenditure, impaired fat absorption, increased weight loss and enhanced fat oxidation during exercise, or in some cases long-term adapta-

tions that promote fat metabolism.

A plethora of ingredients are considered to aid in fat loss and optimize body composition. Many of these fat-loss supplements tend to contain caffeine (see page 65) while others contain 5-HTP or green tea extract. However, some other lesser-known supplements are effective fat-loss agents when used properly and in the presence of a reasonable diet.

CAFFEINE The Energizer

The most popular and widely used supplement on this list, caffeine is a powerful fat-burning tool. Upon ingestion, it's rapidly absorbed and increases in plasma concentrations, with effects generally observed within 30 to 60 minutes. In short, caffeine boosts your awareness and focus, improving your mental approach to training and acutely increasing strength levels. Caffeine is effective for enhancing sport performance in trained athletes when consumed in low to moderate dosages but doesn't generally result in further

performance enhancement when consumed in higher dosages.

Caffeine's key effect is to increase sympathetic nervous system activity, which liberates fatty acids from the adipose (fat tissue) and/or intramuscular stores. This occurs indirectly through increased circulating adrenaline levels, which can potentially enhance the availability of fatty acids for oxidation. Even an early study published in *The American Journal of Clinical Nutrition* found that administering a high dose of caffeine (8 milligrams per kilogram of bodyweight) significantly increased resting metabolic rate in the three hours after ingestion. Interestingly, in the final hour of measurements, fat oxidation was significantly higher after caffeine ingestion compared to placebo.

YOHIMBINE The Releaser

This exotic-sounding compound comes from the bark of a West African tree and works through different mechanisms than caffeine to help you get shredded. Yohimbine acts upon the adrenergic re-



TO BE ELITE I CHOOSE TRIPLE-PATENTED KRE-ALKALYN



The Kre-Alkalyn Difference:

- Buffered Creatine Monohydrate
 - pH-Correct & Stable
 - 3 International Patents
 - Banned-Substance Free

REGULAR
Strength & Size

HARDCORE
Energy & Strength



ALL AMERICAN
EFX SPORTS
FORMULATED
TO WIN!

theVitaminShoppe

ceptors of fat cells, which regulate thermogenesis. Yohimbine can potentially induce fat loss through the release of adrenaline, which itself is an activator of beta-adrenergic receptors, but also by helping your body to release more fat during activity.

A 2006 study published in *Research in Sports Medicine* examined the effects of yohimbine supplementation on body composition and exercise performance in professional soccer players. The 20 top-level male athletes were allocated to two randomly assigned trials. Subjects in the yohimbine group ingested tablets that contained yohimbine at a dose of 20 milligrams per day in two equal doses for 21 days. Subjects in the placebo group ingested an equal number of identical-looking pills that contained cellulose. Perhaps not surprisingly, the percentages of body fat and total fat mass were significantly decreased in the yohimbine group after the supplementation protocol versus the placebo group.

One thing is certain: Some people may be more sensitive to yohimbine than others, so individual tolerance should be explored before taking a full dose.

FORSKOLIN The Elevator

Forskolin is produced by the Indian Coleus plant (*Coleus forskohlii*) and has been studied in research to alter cell metabolism. Although human studies are currently limited, the data point to positive outcomes. In a study published in *Obesity*, 30 obese men supplemented with a forskolin extract or placebo for 12 weeks. Forskolin ingestion caused reductions in fat mass — 11.2 percent

versus 1.7 in the placebo group — and an approximate 4 percent reduction in body fat. Further, when researchers at the University of Memphis had overweight college-age women supplement with 500 milligrams per day of forskolin for 12 weeks, subjects experienced greater reductions in fat-free mass than a placebo group. Data indicate that forskolin acts on fat loss by boosting testosterone and thyroid hormone production, which elevates overall metabolism. Based on the science, forskolin appears to be well tolerated and has a favorable impact on weight loss and body fat loss.

GREEN-TEA EXTRACT The Calorie Killer

Relied upon for multiple health benefits, green tea extract has gained acclaim as a powerful ally in the quest for a leaner midsection. And for good reason.

A 2008 study published in *The American Journal of Clinical Nutrition* investigated the effects of acute green tea extract ingestion (366 milligrams per dose on the day before and immediately before exercise) on substrate metabolism during moderate-intensity exercise in humans. Fat oxidation rates during a 30-minute cycling session at 60 percent of VO₂ max were significantly higher (17 percent) following green tea extract ingestion versus a placebo.

In a similar study published in the *Journal of Health Science*, subjects consumed 218 milligrams per day during a three-month training period and exhibited a 24 percent higher fat oxidation rate during exercise compared to a placebo group; no effect was seen at a lower dose (70 milligrams per day)

STACKED FOR WINTER

What kind of shape do you hope to carry into the cold, winter months? Hopefully not one that reflects surrender to the barrage of holiday gluttony that lies ahead but rather one that mirrors your top summer conditioning. These fat fighters, which work via various mechanisms, can help you attack unfavorable weight gain as the summer slips into your rearview.

SUPPLEMENT	DOSE	TIMING
Caffeine	200-400 mg	2x daily with one dose 30-60 minutes preworkout
Yohimbine	5-20 mg	2-3x daily with one dose 30-60 minutes preworkout
Forskolin	20-50 mg	2-3x daily between meals
Green Tea Extract	500-1,000 mg	2-3x daily with one dose 30-60 minutes preworkout
Raspberry Ketones	100-200 mg	2x daily before meals

Your NEW Training Partners



Get Pumped on BCAA's
AmiNo Flow:
BCAA's
Nitric Oxide
Electrolytes
ALL IN ONE!

Do you like Pre-workouts?
Do you like Creatine?
PreCre:
5g of Creatine
20.4g of Active Ingredients
PER SCOOP!



 theVitamin
Shoppe
every body matters™

build a better you with muscle elements Me

over three weeks. The secret? EGCG, or epigallocatechin gallate, a compound that allows norepinephrine to speed up key processes in the body, including all-day calorie burning.

These findings suggest that higher doses (500 to 1,000 milligrams) of green tea extract have very favorable effects on enhancing fat oxidation during exercise.

RASPBERRY KETONES

The Hormone Helper

Structurally similar to the fat-burning heavyweight capsaicin, raspberry ketones work by increasing various enzymes, adipokines and hormones (like norepinephrine) that are associated with fat loss. They've gained popularity thanks to various media sources and continued published science. A 2013 study published in the *Journal of the International Society of Sports Nutrition* showed that raspberry ketones contributed to improvements in lean mass and fat mass, waist and hip ratio and energy levels. Although the results are promising, there's currently a lack of human data. Still, it makes raspberry ketones an appealing strategy for fat loss. ■



EDITOR'S PICKS

Want to assemble your own fat-burning arsenal? Any of these products can help you whittle away at your waistline, no matter the season.

PRODUCT	CAFFEINE	YOHIMBINE	FORSKOLIN	GREEN TEA	RASPBERRY KETONES
a. GAT JetFuel Pyro	x				x
b. Cellucor Super HD	x	x			
c. Cellucor CLK					x
d. Finaflex PX Pro Xanthine 500-XT	x			x	
e. RSP QuadraLean					x
f. Cardiovascular Research Forskolin			x		

Shop these products and others today at vitaminshoppe.com.

GRUNT AND GROAN BEFORE HOME SWEET HOME

GAIN STRENGTH AND REPLENISH NUTRIENTS WITH THE HELP OF TRUE ATHLETE® ZMA® WITH THEANINE. IT'S A UNIQUE SUPPLEMENT FORMULATED TO HELP SUPPORT MUSCLES WHILE PROMOTING REST AND RECOVERY.

#iamatrueathlete

Available at

theVitaminShopper



100% PURE ADRENALINE™



STIMUL8® YOUR WORKOUT

REDEFINE YOURSELF® with **STIMUL8®**, the ultimate High Performance Pre-Workout built with *Patent Pending* ingredients that deliver **UNPARALLELED ENERGY** in each and every dose.



These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure or prevent any disease.



POWERED BY:



*IRISINXD® is a registered trademark of FINAFLEX, protected by Patent Pending, Serial No. US 14/053,172.





BODYTECH®

THE ROAD TO A LEANER BODY AND BIGGER MUSCLES IS PAVED WITH BODYTECH®

Success is not linear; with every twist and turn, there's a BodyTech® supplement formulated to support muscle growth, endurance and recovery.

sale
buy one, get one
50% off

all BodyTech® brand products
mix & match

Available exclusively at

 **theVitamin
Shoppe®**



stores nationwide
vitaminshoppe.com

Sale valid:
September 1 - 30, 2015

CAFFEINE

IS...

THIS ALL-PURPOSE STIMULANT CAN DELAY TIME TO FATIGUE, BOOST STRENGTH, ENHANCE RECOVERY AND HELP BURN AWAY STUBBORN FAT STORES.

BY DWAYNE JACKSON, PHD



Whether it's the aromatic, percolating goodness in your kitchen or that day-making handoff at the local java drive-thru, chances are you don't feel quite right until you've had your morning coffee. But it ain't just for that Colombian-roasted taste, is it? Most of us seek the caffeinated promise of a shortened morning fog.

An estimated 90 percent of North Americans enjoy a shot of caffeine in one form or another to perk up the brain first thing in the morning or to overcome an afternoon slump. Yet research over the past several years has shown that caffeine is much more than just a wake-up wonder: It works in the brain as a stimulant *and* in the body to promote potent increases in training intensity and volume. That's why you'll find caffeine in most supplements marketed to increase focus, energy and athletic performance, and

its ergogenic effects are so remarkable that many sports governing bodies have strict limits for its use in their athletes. For those of us who train hard, here are five ways that caffeine is king.

IT BOOSTS ENERGY

Although caffeine is a central nervous system (CNS) stimulant, its effects on energy go far beyond its buzz. One study published in the *Scandinavian Journal of Medicine & Science in Sports* indicated that preworkout caffeine supplementation dampens perceived exertion during and after exercise by almost 6 percent compared to a placebo, which in turn has been shown to improve endurance in aerobic and anaerobic sports. Your cardio workouts will benefit from the increased mobilization of free fatty acids, which get used to fuel extended performance and improves time to exhaustion. For

short-duration anaerobic activities such as weight training and power sports, scientists speculate that the caffeine-induced boost in dopamine signaling in the brain promotes increased time to exhaustion. All in all, these data illustrate that taking caffeine before training promotes higher intensity and volume in your workouts and sport performance.

Preworkout caffeine supplementation can also reduce poor training performance due to sleep deprivation — something we all deal with now and then — reported researchers in the *International Journal of Sport Nutrition and Exercise Metabolism*. Although sleep deprivation led to large decreases in total workout load in this study, sleep-deprived subjects who took caffeine performed as well as those who were rested. Yet non-sleep-deprived individuals who received caffeine performed better than all other groups

and experienced increased testosterone levels pre- and postworkout.

IT ACUTELY INCREASES STRENGTH

A recent study published in the *The Journal of Strength and Conditioning Research* demonstrated that ingesting caffeine an hour before intense biceps training (to failure) significantly boosted training volume. And other research published in the same journal reported that taking caffeine one hour before training increased bench press 1RM strength better than a placebo. In terms of lower-body strength, an earlier study found that caffeine supplementation enhanced knee extension and flexion power and strength in elite athletes.

IT INCREASES FAT LOSS

Ingesting caffeine before low-intensity aerobic exercise has been scientifically shown to boost lipolysis (fat burning), an effect based on two known mechanisms. First, there's a synergistic increase in norepinephrine (noradrenaline) and epinephrine (adrenaline) release associated with the combination of exercise and caffeine supplementation. Norepinephrine is a key regulator of fatty acid release from fat cells into the circulation to be burned for energy. Second, caffeine competes with adenosine on adenosine receptors in fat cells; under normal conditions, adenosine binds to fat cells and hinders the release of fatty acids. Taking caffeine blocks this inhibitory effect of adenosine on fatty acid release, resulting in greater fat mobilization and availability for metabolism.

IT AIDS IN RECOVERY

There are even benefits to taking caffeine after exercise. In an article published in the *Journal of Applied Physiology*, it was reported that high-dose

postworkout caffeine supplementation combined with the ingestion of fast sugars (like dextrose) resulted in 66 percent greater glycogen repletion than when taking carbs alone. In fact, study authors concluded that the augmented rate of glycogen replenishment they observed was the highest ever reported in humans under normal physiological conditions. Throughout a four-hour recovery period, subjects who ingested caffeine with carbohydrate had much higher levels of insulin and blood glucose, a potent signal for anabolic drive. Those who opt for this approach may want to temper their caffeine ingestion pre-workout and at other times of the day.

IT DECREASES PAIN

In an article published in *The Journal of Strength and Conditioning Research*, researchers from the University of Rhode Island reported that athletes who took caffeine before resistance training experienced significant and immediate reductions in postworkout pain. Subjects also enjoyed robust decreases in delayed-onset muscle soreness days after training. Along similar lines, in a recent double-blind, placebo-controlled study from the University of Georgia, caffeine ingestion (approximately 300 milligrams) before maximal voluntary isometric contraction was found to reduce muscular pain intensity by almost 50 percent.

Dramatic decreases in muscular pain are generally thought to be due to caffeine's ability to block adenosine receptors in the brain and spinal cord that are involved in pain processing and perception. To put this in perspective, one study concluded that the nonsteroidal anti-inflammatory and analgesic drug Naproxen produced only a 30 percent reduction in post-workout muscle soreness.

BOOSTER BEWARE

Based on the scientific evidence, there are a few facts you should know before you decide to take caffeine to enhance your workouts:

- 1. MORE IS NOT BETTER.** In fact, as with most stimulants, the benefits of caffeine diminish if you take a larger-than-optimal dose. This is called the inverted-U effect.
- 2. CAFFEINE IS A DIURETIC THAT CAN DEHYDRATE YOU,** so you must increase your water consumption when taking it.
- 3. CAFFEINE HAS A RELATIVELY LONG HALF-LIFE OF SIX HOURS.** So if you drink a large coffee (with about 200 milligrams of caffeine) at 6 p.m. before you work out, you'll have 100 milligrams still active in your body at midnight, which can severely affect your sleep cycle. Sleep is something you don't want to mess with: It's incredibly important for strength and muscular gains (read: recovery).
- 4. CAFFEINE IS ADDICTIVE.** Use it in moderation and don't take it to make up for poor sleep habits.

CAFFEINATING FOR PERFORMANCE

Take 200 to 400 milligrams of caffeine one hour before workouts. If you've never consumed caffeine before or you have a lower tolerance, start with the lowest dose and work up accordingly. If you exhibit symptoms such as shaking, nervousness, heart palpitations or anxiety, you've taken too much. For optimal results, take two equal daily doses of 100 to 300 milligrams each. Take the first dose upon waking and the second dose one hour before training, allowing four to six hours between doses. ■

THE DUALITY OF CAFFEINE

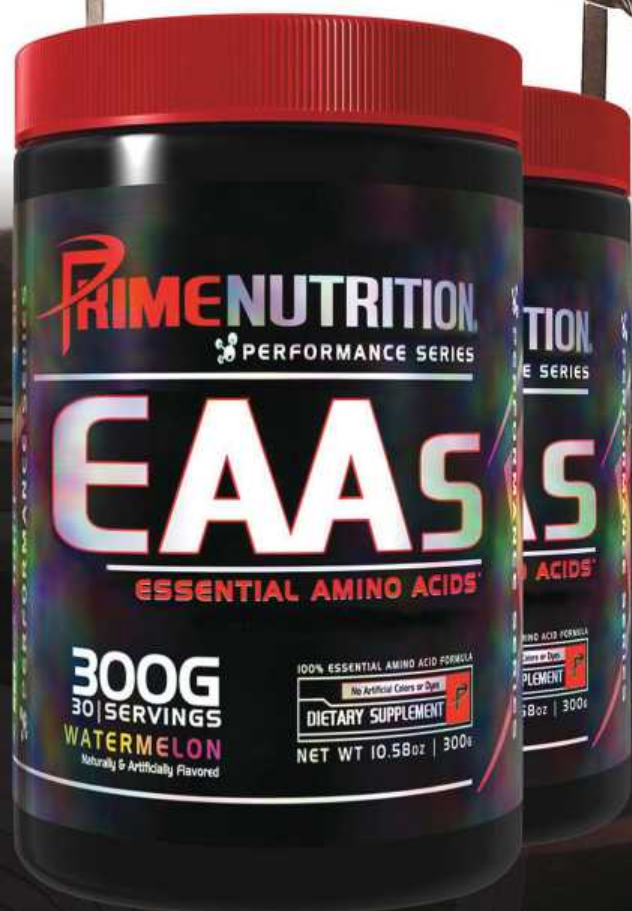
The CliffsNotes on how this super supp does what it does in the brain and body.

IN THE BRAIN Caffeine rapidly goes to work in the CNS and can be felt within 30 minutes after ingestion. The brain-stimulating effect of caffeine is mainly the result of its adenosine-blocking actions. Normally, adenosine binds to nerve cells in the brain to slow down nerve activity, which makes you mellow. With a dose of caffeine on board, however, adenosine's actions are blunted and nerve cells become hyperactive. Nerve hyperactivity is an environment that the pituitary perceives as an emer-

gency, which promotes the release of noradrenaline, adrenaline and dopamine, giving the user a feeling of energy, wakefulness and well-being.

IN THE BODY Caffeine modifies the actions of several enzymes. One in particular, called phosphodiesterase (PDE), is inhibited by caffeine. In cells, PDE works to break down cyclic adenosine monophosphate (cAMP), which is a crucial cell-signaling substance called a second messenger. Overall, the blunting of PDE allows cAMP to build up in the body, which intensifies and prolongs the effects of energizing neurotransmitters and hormones such as adrenaline and noradrenaline.

THE CHOICE IS CLEAR



"I choose Prime Nutrition EAAs because I need to get the most out of every workout, without sacrificing taste."

- Salvina Vitale, Prime Nutrition Athlete

- ▶ 5G LEUCINE PER SERVING
- ▶ 0 ARTIFICIAL COLORS OR DYES
- ▶ 8.75G TOTAL AMINO ACIDS PER SERVING

THE BEST OR NOTHING

 theVitamin Shoppe

 PRIMENUTRITION
THE BEST OR NOTHING



GROWTH FACTOR-9

Boost your ability to build muscle, burn fat and recover between workouts by up to 682 percent with this cutting-edge formula.

HUMAN GROWTH HORMONE can turn back the body's internal clock, helping you rapidly build muscle, slash fat and increase libido, all while sending energy levels through the roof. But how can you optimize your own production of this do-it-all hormone? Unfortunately, there are few answers.

WHAT IS GROWTH HORMONE?

The body naturally produces growth hormone (HGH or simply GH) in the pituitary gland. GH is responsible for cell growth and regeneration, so increasing muscle mass and bone density are impossible without it. GH also plays a major role in maintaining the health of all human tissue, including that of the

brain and other vital organs. When secreted, GH remains active in the bloodstream for only a few minutes, but this is enough time for the liver to convert it into such growth factors as insulinlike growth factor-1, which boasts a host of anabolic properties.

WHY SHOULD I CARE?

GH is not only critical for building muscle mass but it also aids in body fat loss, bone and joint health, increased sex drive, improved recovery time and enhanced energy. In addition, GH has been shown to slow the progression of age-related degenerative diseases, maintain mental acuity and stimulate a general sense of well-being. Low levels of GH can result in the exact opposite: muscle loss, fat gain, low sex drive, less energy and longer recovery times. Many experts believe that a natural decline of GH — the body begins producing less at age 25 — is one cause of accelerated body aging.

HOW CAN I BOOST GH?

Without any supplementation or drugs, the two primary ways to increase GH levels are weight training and sleep. The more you train, the more GH your pituitary gland releases naturally. The same is true of sleep: Getting deep, restful and adequate sleep each night (seven to nine hours) will help your body produce more GH since its levels peak during slumber. A healthy diet can help, too.

You can also recruit extra support with some outside help. The best way to improve your natural GH production is with Growth Factor-9, the only U.S. patented dietary supplement shown in clinical trials to improve the body's natural production of GH by an astonishing 682 percent. This breakthrough was discovered by a group of scientists at Pennington Biomedical Research Center at Louisiana State University (Baton Rouge). Manufactured by Novex Biotech, Growth Factor-9 optimizes the body's natural production of GH without the potential adverse side effects stemming from the use of synthetic growth hormone.

Growth Factor-9 comes in capsule form (four per day) or a great-tasting, convenient drink mix (pictured). Both are available at The Vitamin Shoppe for a list price of \$99.99 each. ■

REAL GROWTH HORMONE

UNREAL RESULTS.

Growth Factor-9 is clinically demonstrated to boost natural GH levels up to 682%... so you can get the results you've been waiting for.

You want the touted benefits of increased growth hormone levels. You want more lean muscle mass. You want reduced fat. You want more energy to crush your workouts. What you don't want are the injections, side effects, and high cost of synthetic hGH. Growth Factor-9 naturally enhances your body's production of growth hormone, and we have the clinical data to back it up.

- The only US patented* oral supplement shown in a human clinical trial to increase mean hGH levels by 682% after a single serving.
- hGH is associated with: increased lean muscle mass; body fat reduction; improved sex drive; increased energy; improved sleep; joint health; bone health.



Novex Biotech.
THE UNSTOPPABLE YOU

See the science behind the performance at
GrowthFactor9.com or call 1.800.404.3972

These statements have not been evaluated by the Food and Drug Administration.
This product is not intended to diagnose, treat, cure, or prevent any disease.

©2015 All Rights Reserved. All trademarks are the property of their respective owners.
Individual results will vary. BR15617-9

theVitamin
Shoppe

*Growth Factor-9 is protected by
U.S. Patent Numbers: 8,551,542; 8,715,752;
8,722,114; 8,734,864; 8,747,921; 8,747,922;
8,765,195; 8,808,763; 8,808,764; and 8,815,311.

PUT THE WHEY' IN 'WEIGHTS' AND GAIN NATURALLY

SUPPORT PERFORMANCE AND RECOVERY
WITH TRUE ATHLETE—A WIDE RANGE OF
SPORTS NUTRITION PRODUCTS, INCLUDING
HORMONE-FREE NATURAL WHEY PROTEIN.
CONTAINS NO ARTIFICIAL FLAVORS, COLORS
OR SWEETENERS.

#iamatrueathlete

Available at
theVitaminShopper®



TRUE ATHLETE®
NATURALLY DRIVEN

CART DEALS

Looking to step up your workouts ahead of Olympia Weekend? Here's your checklist of must-have supps to help you get dialed in.

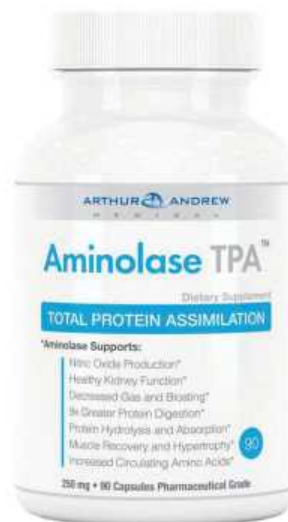


< NOVEX BIOTECH GROWTH FACTOR-9

Growth Factor-9 is the first and only U.S. patented oral supplement shown in a clinical study to naturally increase mean serum growth hormone (GH) levels by 682 percent. GH has numerous positive effects including muscle gain, fat loss, recovery, joint health, energy and sex drive.

ARTHUR ANDREW MEDICAL AMINOLASE TPA >

Dietary protein must be completely digested within 90 minutes to avoid kidney stress, wasted amino acids and the formation of toxic ammonia gas. Clinical evidence shows that Aminolase TPA allows for nine times more protein absorption when taken with dietary or supplemented protein. Increase muscle mass, maintain healthy blood sugar levels and even lose weight with Aminolase TPA.

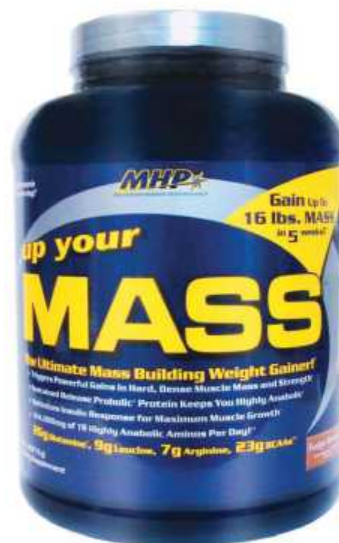


< VEGA SPORT PRE-WORKOUT ENERGIZER

With a unique blend of 12 synergistic, plant-based, performance-improving ingredients such as green tea, yerba mate, coconut oil and rhodiola, Vega Sport Pre-Workout Energizer provides immediate and sustained energy. It features two complementary carbohydrates and is specifically formulated to increase endurance, enhance mental focus and take your workout to the next level.

MHP UP YOUR MASS >

Loaded with up to 62 grams of quality protein per serving, superior complex carbohydrates from oats and barley, BCAAs, glutamine, essential fatty acids and medium-chain triglycerides, Up Your Mass is the ultimate clean and lean mass-building weight gainer. If you want to gain slabs of quality muscle fast, you need Up Your Mass.



< BEAST SPORTS NUTRITION SUPER TEST

Designed to help you build muscle mass, improve strength, increase sex drive and keep estrogen and dihydrotestosterone in check, Super Test also helps detoxify your system to maximize performance. It's now available in a new bonus size, only at The Vitamin Shoppe.



MUSCLETECH CREAMATOR >

Featuring a never-before-seen ratio of free acid creatine — the purest form available — and ultrapure creatine HCl, all-new Creamator delivers 100 percent more creatine per serving and 2.5 times more servings than the competition. Now available in tasty Icy Rocket Freeze.



< GAT SUPERTEIN

GAT Supertein is a delicious blend of four high-quality milk proteins that deliver all of the amino acids plus additional ingredients your body requires for the development and preservation of lean muscle.

GASPARI NUTRITION SIZEON >

New look, same great award-winning product. Now part of Gaspari Nutrition's new Elite Performance Series, SizeOn is the ultimate hybrid intraworkout formula for those wanting to step up their workouts and get true performance results. SizeOn accelerates protein synthesis and muscle force recovery during training and delivers all the vital nutrients and minerals you need for optimal stamina and performance.



< MONSTER ISOLATE

Monster Isolate is a single-source protein powder, with 100 percent of its protein coming from whey protein isolate to aid in exercise recovery and muscle growth. Monster Isolate is available in two sizes: 2.2 pounds (about 30 servings) and 4.4 pounds (about 60 servings).



BODYTECH HMB >

A metabolite of the essential amino acid leucine and a component of BCAAs, HMB can assist in muscle recovery and growth, increased strength and preservation of lean muscle mass. When combined with resistance training, HMB supplementation can support muscle strength and body composition. ■



MANUFACTURED BY
ARTHUR ANDREW
MEDICAL

Aminolase TPA™

BOOSTS PROTEIN ABSORPTION OVER 900%



1 SCOOP OF YOUR FAVORITE PROTEIN POWDER + 1 AMINOLASE™ CAPSULE
IS **EQUIVALENT** TO TAKING



9 SCOOPS OF YOUR FAVORITE PROTEIN POWDER. A new clinical study has revealed that users who consumed Aminolase with dietary or supplemented protein digested and absorbed 9x more protein than consuming protein alone. Contrary to popular belief, dietary protein must be broken down into Amino Acids within 90 minutes in order to be used for muscle building, tissue repair and immune function. Excess protein that has not been digested and absorbed within this time period will be consumed by bacteria in the large intestine, creating significant amounts of ammonia responsible for gas, bloating and many other severe digestive complaints. Make your protein 9x (900%) more powerful with Aminolase.

Percentage of Whey Hydrolyzed to Muscle-Building Form

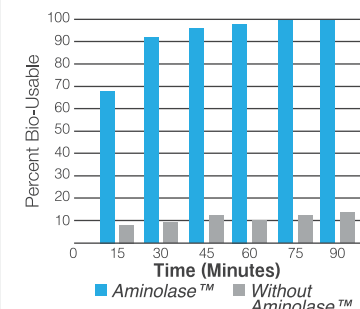


Figure 01

Stomach Discomfort After Protein Ingestion

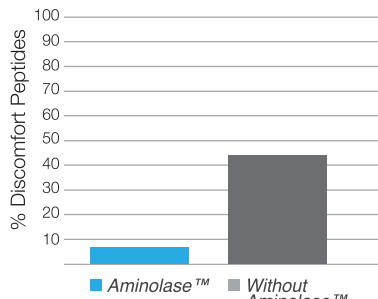


Figure 02



**theVitamin
Shoppe®**
every body matters™

For more information and
to download our clinical, visit
www.aminolase.com
or call (800) 385-9596



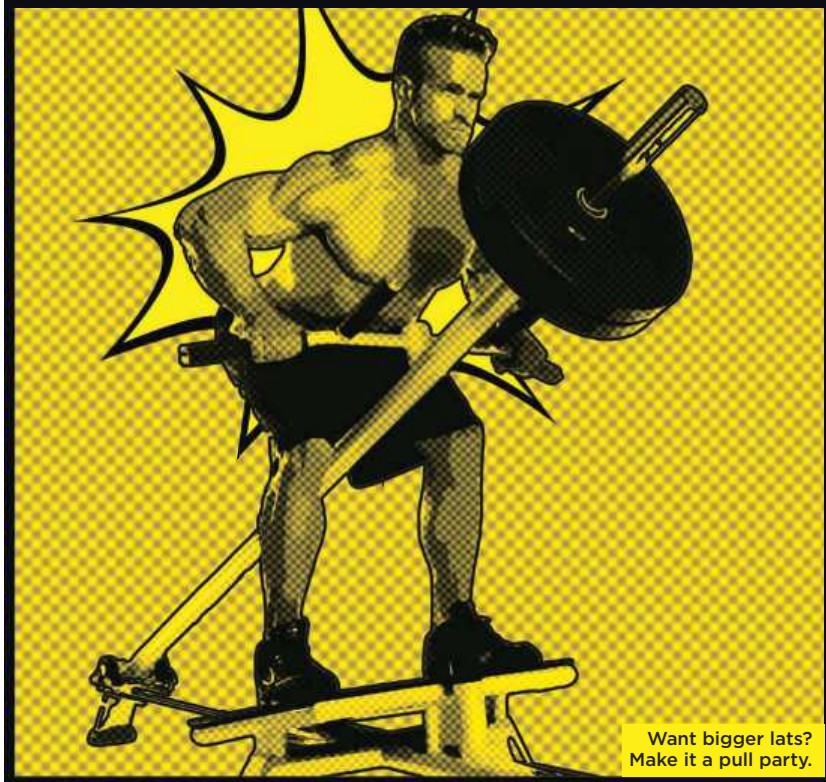
f /ArthurAndrewMedical t /arthurandrewmed

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

5 WAYS TO DIVERSIFY YOUR ROWS

Get thick and strong with these variations of the classic back exercise.

BY MIKE CARLSON, NASM-CPT, CFL1



The row is the pound-for-pound champion of upper-body mass-building exercises. With less risk of injury and greater potential for size gains than even the bench press, the barbell row is a workout staple of both physique- and strength-minded athletes. Add one of these variations to your back training for a fresh dose of stimulation.

1 PENDLAY ROW

Named for Olympic weightlifting coach Glenn Pendlay, this row differs from a traditional barbell row in that your torso is horizontal and the weight returns to the floor between reps. With no momentum and zero stretch reflex to help move the bar, Pendlay rows develop power and starting strength, defined as the ability to move a load from a dead-stop position.

HOW TO DO IT With a loaded barbell on the floor in front of you, hinge at the hips and knees and bend forward so the bar is directly under your navel with your

torso roughly parallel to the floor. Using a wider than shoulder-width grip, pull the bar to your upper abs with speed and power. Lower under control, let the bar come to a full stop and re-grip if necessary.

2 T-BAR ROW

The neutral, close-grip position of this move and the way the weight is balanced at the midline of the body allows you to pull a heavier load than with other rows. Any version of this — a T-bar bench, chest-supported row or a barbell with a V-handle — can help add thickness to your back.

HOW TO DO IT Load a T-bar bench or cradle one end of a barbell with a V-handle, flush against the inside of the sleeve. Take a wide stance and straddle the bar, with your hips back and chest up. Extend your arms and bend your hips and knees until you can grasp the handle. Retract your shoulder blades and bring your elbows behind you until the bar touches your upper abs.

3 INVERTED ROW

Often called “fat man pull-ups,” inverted rows aren’t just a way to make pull-ups easier for overweight or deconditioned lifters. In fact, they provide variety and challenge for even advanced trainees, especially when using TRX handles or fat grips or when chains or a weight vest are added to the load.

HOW TO DO IT Set the bar of a Smith machine to about hip height. Lie faceup underneath the bar and grasp it with a wide overhand grip. Put your heels up on the end of a bench or box, then pull your chest to the bar and return to full arm extension.

4 KROC ROW

Matt “Kroc” Kroczielski is a record-setting powerlifter, an NPC bodybuilder and the namesake of the brutally demanding Kroc row, which is universally praised for stimulating size and strength gains. Its magic comes from a combination of heavy weight and high reps, so it’s not for beginners.

HOW TO DO IT Place one hand and the same-side knee on a flat bench. Grasp a heavy dumbbell so the post is perpendicular to your body, not parallel, and your palm faces behind you. With your torso at about a 45-degree angle (more upright than in a traditional dumbbell row), drop your shoulder at the bottom for a stretch before quickly pulling the dumbbell toward your hip. Go ahead and use some body English in your torso to help move the weight.

5 MEADOWS ROW

This is an unorthodox version of a one-arm dumbbell row popularized by bodybuilder and nutrition guru John Meadows. Since it requires you to grasp the thick end of the T-bar, straps are highly recommended.

HOW TO DO IT Load a T-bar or landmine and stand on the opposite side, parallel to the end of the bar, using a staggered stance with your right foot forward. Bend over at the waist and grasp the end of the bar with your left hand using an overhand grip. Shoot your hips backward, then raise the hip closest to the bar so it’s slightly higher than the other side. Rest your right elbow on your right knee for support. Quickly pull the weight up so your hand approaches your ribs. ■

Photo Illustration by Paul Duarte

THE WORLD'S STRONGEST MEN SAY **BEST MASS GAINER!** IT'S THE



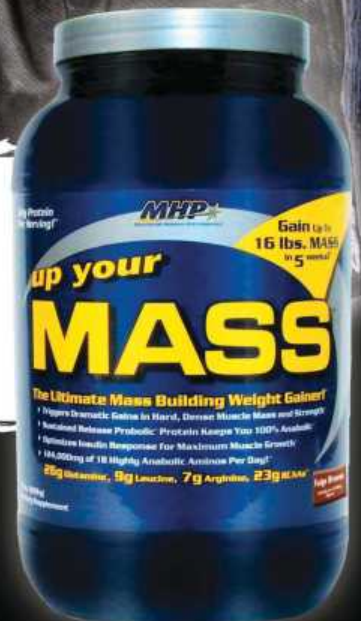
BRIAN SHAW
6'8" • 430 lbs.
3x World's Strongest Man

ZYDRUNAS SAVICKAS
6'4" • 370 lbs.
4x World's Strongest Man

HAFTHOR BJORNSSON
6'9" • 390 lbs.
Europe's Strongest Man

DO YOU DARE DISAGREE?

It's no coincidence that three of the biggest and most powerful men on the planet all use Up Your MASS. To get big, you need engineered mass building nutrition. Up Your MASS provides 62 grams of a sustained release protein blend shown to be superior to whey to build muscle mass and boost recovery. It also includes a high quality carb matrix designed to fuel muscle growth and enhance performance. Plus, unlike other gainers, Up Your MASS is not loaded with simple sugars like dextrose or sucrose. To build maximum size and strength, use what the biggest and strongest men in the world use – Up Your MASS!



Available at:

**theVitamin
Shoppe®**
every body matters™

1.888.783.8844
MHPSTRONG.com

MHP
MAXIMUM HUMAN PERFORMANCE

© 2015 Maximum Human Performance, LLC. All rights reserved. These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, cure, treat or prevent any disease. Your results may vary.

Inner[®] Armour[®] SPORTS NUTRITION

INDISPUTABLE

EXTRAORDINARY 8 WEEK TRANSFORMATIONS*

- Increased Lean Muscle By 37 lbs.*
- Increased 225 lb Bench Press By 1 Rep Per Week (8 Reps)*
- Decreased Body Fat By 27 lbs.*
- Decreased Best 40 Yard Dash Time to 4.34 Seconds*



WWW.INNERARMOUR.COM

*These are extraordinary results from Inner Armour Sports Nutrition / Test Football Academy.